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INDIAN NOTES  
AND MONOGRAPHS

no. 59  
Miscellaneous Series No. 59



NOTES ON THE ETHNOLOGY  
OF THE INDIANS OF PUGET SOUND

BY

T. T. WATERMAN

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NEW YORK  
MUSEUM OF THE AMERICAN INDIAN  
HEYE FOUNDATION

1973



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## FOREWORD

Dr. Thomas Talbot Waterman (1886-1936), was a field collector for the Museum of the American Indian from 1919 to 1922, and his experiences in the Pacific Northwest are in large part the basis for much of the data included herein. Although the manuscript was completed in 1921, for various reasons it was never published. Our desire to get such early studies into print dictates the present publication, although we clearly recognize that some of the observations may now be obsolete. Certainly, were the author still living, he would probably want to make various revisions in the text, and update the bibliography.

Even though there may be some differences of opinion and interpretation on the part of contemporary students, the available body of data on the Indians of the Puget Sound region is such that we regard any body of field observations by a competent scholar as a helpful contribution. We have chosen to print the manuscript exactly as the author left it, rather than to attempt any revision. It is presented simply in the hope that students may find it useful for reference purposes. The Waterman Collection is freely available for research examination by interested scholars.

Frederick J. Dockstader  
*Director*

July 15, 1973



## INTRODUCTION

The present paper took its origin while the writer was employed at the University of Washington. In the summer of 1918 the University set aside \$200 per annum to be expended on an ethnographic survey of that state. The fund was used by the present writer in 1918 and 1919 in obtaining information among the small groups of Indians living near Seattle. A good deal of the field work was done in company with Mr Arthur C. Ballard, of Auburn, who had previously, on his own initiative, recorded a very considerable body of information concerning Indian life around Puget Sound. Mr Ballard may be regarded as the leading authority on the Indians of the State of Washington. His acquaintance with them and with their mode of life has extended over a long period and is extremely intimate. Certain information obtained by Mr Ballard is embodied in the present paper, which to that extent, is a joint enterprise. Additional inquiry was made possible in January 1921, through the Research Council of the University of California.

The history of other investigations among these people is a brief one. The first European to invade the Sound region, the explorer Vancouver, left a well-known record of his observations in his *Voyage* (London, 1798). His most important passages for our purposes are those referring to the practice of shearing dogs for wool, and to the use of aerial nets for catching ducks. His observations on the density of the popula-

tion are also of unusual interest. Little else of importance, ethnographically speaking, came under Vancouver's notice. In a subsequent period, the various employees of the Hudson's Bay Company working in the region had ample opportunities for observation, opportunities which on the whole they failed miserably to profit by. Their published journals are notably barren of interest, except for chance allusions. The material available from that period has been summarized by Gibbs, whose excellent paper, published in 1877, is to date the only systematic account of Puget Sound culture. In subsequent years the missionary, Myron Eells, published a number of articles. Edward S. Curtis in his well-known work includes a brief account of the Puget Sound groups, an account less satisfactory on the whole than that of Gibbs, but dealing with certain new matters. In addition to the above-named books, and some that I may have omitted, there have been some papers published locally. I might mention in this connection Carlson's *Chief Sealth* and Costello's *The Siwash*. After making a vigorous effort, I still find it difficult to speak of these papers with patience. Little occasion exists for quoting them. In recent years the ceremonies of Puget Sound came under the capable notice of George A. Dorsey and, later on, of H. K. Haeberlin. A brief account of these papers, and of others to which reference is made below, is given in the bibliography.

From the standpoint of museum collections, the region has fared somewhat better. Considering the interest attaching to the ethnology of the area, surpris-

ingly little has been done by the institutions within the State of Washington. For example, two local museums, the Museum at the State University in Seattle, and what is called the State Museum or Ferry Museum in Tacoma, have a considerable array of material obtained from various possible and impossible places, but they exhibit little from their own vicinity. Apparently neither institution has ever carried on intelligent collecting in its own neighborhood. The last-named institution is the famous establishment described by Culin (1901, pp. 144-145) as follows:

"The Ferry Museum occupies a unique place among Museums. Its collections are more miscellaneous, and are arranged with less system, than those of any museum I have visited. The labels, such as they are, are misspelled and full of errors. Thus Ariadne appears as 'Ariadna', a pair of Chinese curtain-hooks are marked 'African head-dress', and a wooden stamp for the sacred loaf of the Greek Church is stated to be a 'Greek butter-print.'... Such a jumble of old newspapers, books, historical relics, glass, pottery, arms, and old clothes can scarcely be imagined outside of a curiosity shop."

Mixed in with the china mugs, newspapers, shotguns, candlesticks, and other "specimens" in this establishment, are to be found some remarkably interesting examples of the basketry and woodwork of the Puget Sound region. Concerning these specimens, however, the Museum has practically no information. Their collections have never been catalogued. When I inquired for a catalog, in fact, those in charge of the place were not even clear as to what I wanted.

The "State Museum" existing at the University of Washington is of much the same disreputable character, scientifically, as the one just described, though their cases are not so crowded. One finds good specimens mingled with bad; objects installed upside down;

misleading labels or none at all (which, to be sure, is vastly preferable) and in general, a complete absence of scientific museum methods. Some rather good examples of Puget Sound basketry are to be found here, unfortunately not catalogued. Permission to study them was refused by the Museum.

Fortunately, a number of reputable people have collected in the Puget Sound region, for outside institutions. The list includes such well known or famous names as Lewis and Clark, Wilkes, Boas, Culin, G. A. Dorsey, Tozier and (more recently) Haeberlin. The larger part of the objects collected by Tozier, once on display in Seattle, are now at the Museum of the American Indian, Heye Foundation, while others collected by him are at the National Museum. The latter institution also possesses the baskets and other objects from this region sent in by Lewis and Clark at the time of their famous exploring expedition.

The mode of life of the Puget Sound Indians, however, has remained rather imperfectly accounted for in the literature. A number of Indians still live in the close vicinity of Seattle. One fine old informant I found living in a "float-house" on the Duwamish waterway, almost in the central business section of the city. His present cabin lies within a hundred yards of his birth-place. Numerous other informants live within fifteen miles of the University grounds. All of these people when visited by myself were found to possess utensils and objects illustrating their former mode of life.

In March, 1920, the Museum of the American Indian, Heye Foundation, made provision for collecting



all objects illustrating material culture and ceremonialism which were still to be found in the hands of the Indians. A collection was accordingly assembled, very limited in size but containing many specimens satisfactory in quality. Many of the objects illustrated in the present paper were obtained at this time. Naturally the collection made in the year 1920 is anything but exhaustive.\* A good deal of material is to be found in the region even yet, though it is somewhat scattered. Information is still available in unlimited quantities on practically all points relative to the aboriginal mode of existence. A great deal of profitable inquiry might be carried out in this vicinity, if not postponed too long. The rising generation of Indians seems to consist almost entirely of mixed-bloods of various and sundry complexions, and the memory of old times certainly cannot persist indefinitely.

A number of informants contributed to the information here summarized; their names are printed in a list elsewhere. One could not wish for pleasanter conditions for work than those encountered among these Indians.

On entering the field, which was new to me, I wrote a number of letters to Professor Boas, who has done more work on the Northwest coast than anyone else, and have worked as well as I could along the lines suggested by him.

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\*This collection is catalogued as MAI/HF 10/4880-4966. Other specimens included as illustrations in this volume were collected by Dr. Waterman on earlier or later expeditions as follows: Duwamish, 9/7072-7104; Squamish, 9/7348-7358; Puyallup, 9/7522-7566; Squaxin, 9/7662-7685, and Snoqualmi, 10/150-222.

The present paper may be said to represent an appendix to the work of such previous investigators as I have mentioned, especially Gibbs, Eells, and Curtis. It is therefore somewhat uneven, as I have taken up primarily those features of Puget Sound culture which have not previously been described in detail. The matter of their houses and their canoes have been discussed in preceding papers of the present series.

T. T. WATERMAN

### KEY TO PRONUNCIATION

The scheme used by Waterman in this manuscript did not have a complete key to usage; apparently he was in the process of changing some of the letters to be employed, and never finished. However, a complete key to his practice, together with a sound chart, may be found in Waterman and Coffin (1920) pp. 8-10.

Arabic figure 1	Open i, as in <i>bit</i>
Capital <i>E</i>	Dental d, as in <i>date</i> . (He used the Greek Δ in earlier writings).
Colon :	Used to prolong the vowel sound.
Superior <sup>3</sup>	Glottal stop.
All superior letters	"Whispered" or weakly articulated vowels.
x	Sh, as in <i>sugar</i> .

# NOTES ON THE ETHNOLOGY OF THE INDIANS OF PUGET SOUND

## BASKETRY AND TEXTILES

### BASKETS

#### *General Remarks*

The basketry of the Puget Sound region is treated briefly in O. T. Mason's work, (1904, pp. 416-439; pls. 14, 51, 55, 68, 74-79, 152-165) in which he devotes a section to the basketry of what he calls "The Fraser-Columbia Region." The contributions of previous writers, such as Myron Eells, Mrs W. M. Molson, and Franz Boas, have been summed up by Mason, so I will say nothing further concerning these earlier works. The best-known work prior to Mason's book is the paper by Livingston Farrand. The basic facts as observed by myself concerning the art of basketry in the neighborhood of Seattle may, I think, be summarized as follows. For all technical terms relating to basketry, the reader is referred to Mason's compendium.

1. The most *characteristic* products of the region are coiled baskets of cedar-root fiber, brilliantly ornamented in a kind of embroidered "overlay" known as "imbrication." The method of producing "imbrication" is carefully explained on page 427 of Mason's work. This type of basketry is popularly associated with the Klickitat, though (according to Mason's authorities) the Klickitat themselves acquired the art quite recently from other tribes in the region.

2. As far as the State of Washington is concerned, there is a certain difference in the wares originating east and west of the Cascade Mountains. Mason in one passage (p. 427) suggests the terms "Shahaptian" and "Salish" for these two wares. On his plate 158 he uses the corresponding terms "Klickitat" and "Cowlitz." The latter terms are probably preferable. The finest product, contrary to the usual impression, is made in the area bordering on Puget Sound. A categorical statement to this effect will be found in Mason's book (p. 428), and I see no reason to doubt the truth of it. The Cowlitz and Lewis rivers are said to be the region of the most beautiful work. Meantime the people about Seattle make some strikingly handsome specimens. In the eastern or "Klickitat" ware, the designs are slashing and flamboyant, but the "Cowlitz" baskets exhibit more delicate and feathery patterns, without the bold contrasts that are common in the other product. The "Cowlitz" patterns seem to me to have the better decorative value.

3. The materials commonly employed by the Indians of the region in the manufacture of basketry are not numerous. The following list contains the principal ones. The native terms given are in the Duwamish dialect of Salish.

The roots of the giant cedar (*Thuja plicata*). They are dug up and split into narrow strips, the best and smoothest of which are used for sewing, the others for foundation. This material is called *ts<sup>3</sup>apx*.

The bark of this tree is employed for baskets and for mats. The worker cuts in at the base of the tree, pries

up a piece of bark, and rips it from the tree-trunk. They sometimes succeed in detaching in this manner a piece 12 inches wide and 20 feet long. This bark is taken when the sap is running. Such material is dried and rolled up; subsequently they lay it over the edge of a plank and pound it with a bark-beater to get out the fibers, which are called *sta'gwats*.

"Squaw-grass" (*Xerophyllum tenax*) is used either in its natural color, a pale yellow, or it is dyed as indicated below. It is called *tc<sup>3</sup>Ito'lbI*.

The stipe of the "maiden-hair" fern (*Adiantum pedatum*) is employed for overlay material in bringing out a black pattern.

The commonest material for black figures, however, is the bark from the root-stock of the "horse-tail rush" (*Equisetum palustre*), called by the Indians *xE'bxEb*. This material can be obtained only in very short pieces, and it has the characteristic of wrinkling as it dries, but it is nevertheless the commonest material for black overlay. Its color is really a dark purple. The term for it is *gwE'liuq*.

In the finer baskets the design is worked out in the bark of the wild cherry (*Prunus marginata*). This cherry-bark has a very beautiful and lustrous surface of a purple-red color. This material possesses also the advantage of being extraordinarily tough, which the "horse-tail" root is not. It therefore wears well on a basket. Such bark is called *ple'la*.

For dyeing, the Puget Sound people rely almost exclusively on the root of the barberry or "Oregon grape" (*Berberis nervosa*). The root of this plant is boiled, along

with the material to be dyed. The plant supplies a true and brilliant yellow, conspicuous in all the basketry of the region. The plant is called *sxwi*, while the decoction containing the dye is termed *xoqwa'ts*.

In some cases basket materials are dyed a dull red with the bark of the alder (*Alnus oregana*), called *slE'gwets*. This gives red or brown designs, seen in a good many specimens of basketry.

The cat-tail (*Typha latifolia*) is made into certain coarse baskets, usually woven in twined openwork. This material is called *o'lal*. The cortex is stripped from the lower half of this rush and twisted into string, or woven directly into small baskets. This "bark" is termed *gwe'seb*.

Young cedar limbs are split and made into baskets for commonplace uses, where there is hard wear. The splitting produces two surfaces, the flat surface being white, while the round side with the bark on, is reddish. By turning the bark-side out in certain courses, and the white side in, in other courses, the basket-maker is enabled to bring out simple patterns. Material of this sort is called *sto'lebc*.

4. Imbricated coiling is the most *characteristic* weave in this region. Various kinds of checkerwork, however, have reached a high state of perfection. In addition to these forms, the Puget Sound people made a fair number of twined baskets. According to my own observations, twined and checkerwork baskets are quite as numerous as coiled ones, and they are equally important in the life of the people. Such baskets, however, are not valued nearly so highly by the Indians, nor by

White collectors. They do not represent such a great investment of time and labor. I think the twined and checkerwork weaves occur in greater variety than do the coiled weaves. The coiled baskets are notably uniform in technique, consisting in almost all cases of a multiple-rod foundation of split cedar-roots, with "sewing" of the same material.

Such baskets on Puget Sound are really extraordinarily well made. The finished work is very smooth and extremely durable. While the stitches are not fine, they are very even and regular. Such coiled baskets are principally of two shapes. One very common form is a deep basket, rounding down to a small bottom, with an oval mouth. These are what Mason terms "berrying baskets," and are mostly used for the purpose he mentions. They come in various sizes, some of them fairly large. In most cases they are provided with deerskin loops along the rim, which are inserted with the help of an awl after the basket is finished. The other common type is a basket with a rectangular opening, slanting sides, and a wide, flat base. This type of basket is squared at the corners, causing it to somewhat resemble a box in shape. Mason advances the explanation that this form of basket is modeled after certain camphor-wood boxes imported into the Northwest region from China in the early days of our own occupation.

Boas, on the other hand, explained this type of basketry as the result of an effort to imitate in basketry the aboriginal boxes of cedar wood, which are so characteristic of the tribes of the North Pacific coast. The explanation given by Boas seems much the simpler and



more probable of the two, and is moreover borne out by the facts of the distribution of types of baskets, which maybe briefly indicated as follows. The center of the box-producing area is somewhere in the neighborhood of the Tsimshian. Here the best boxes are made, in the best style of ornamentation, and boxes play the most important part in the life of the people.

The basketry of nearby folk, such as the Shushwap, seems to me to imitate boxes much more closely than do the baskets farther south. In the former case, the corners of the basket are more nearly square, and the whole basket is much more box-like. Moreover, these baskets are in many cases provided with lids, in strict imitation of the cedar boxes of the coast tribes. As we travel southward, along the coast, boxes become less common and basketry much more important. Along with this, the form of the basket is gradually modified until resemblance to the boxes is lost. Where boxes are less important, baskets look less like boxes. The baskets of Puget Sound represent a half-way point between the rectangular baskets of the Shushwap and the round baskets of the area south of the Columbia. Boxes among the Puget Sound Indians, incidentally, were not large nor well made, nor plentiful, nor were they ornamented.

It is noteworthy that the squaring-off of basket forms and the imbricated style of ornamentation go together. I believe that neither one has spread beyond Columbia River.

5. In the Puget Sound area twined weaves are usually built up on a flexible foundation. Moreover, the



materials used are coarse in texture. The result is a twined basket which is not very handsome, and which moreover does not wear well. Along with this there is in twined specimens a marked simplicity of ornamentation. The most characteristic twined products take the form of openwork receptacles. Baskets in close-twining are nearly all made of rushes. Some fairly interesting weaves are found, which will be described below.

6. Various kinds of checkerwork and twilling reach a high development in the Puget Sound area. Some of the finest pieces are made in cedar-bark. The work is characterized by the narrowness of the elements and by the fact that the manipulators bring out quite elaborate designs. The cedar-bark strips like the split cedar-limbs have a dark-colored and a light-colored surface. By using one side in certain courses and the reverse side in others, very agreeable patterns are produced. Mason, in discussing checkerwork, uses what is apparently a basket from this region as an example of fine technique (Mason, pl. 14). So far as I know, the designs produced in checkerwork have no names.

#### *Varieties of baskets and their manufacture*

Myron Eells (*a*, p. 627) gives a list of eleven kinds of baskets in use on the west shore of Puget Sound, but it is impossible from his description to identify any of them. The following list represents the forms recently found in use among the people on the eastern shore of the Sound.

- | Type of Basket   | Native Term                           |
|--|---------------------------------------|
| 1. Coiled basket of cedar-root.  | <i>siya'lt.</i>                       |
| This is the type commonly called in the region the "hard" basket, or the "water basket" (short for "water-tight basket").  |                                       |
| 2. Openwork basket of split cedar limbs.   | <i>qaleo'ltc</i> , "cannibal basket." |
| This is usually made in twining on crossed warps, with a handle or bail. This type of basket is now used principally for carrying clams. The curious term applied to this basket refers to a widespread myth. An old cannibal woman (the Snail) formerly went about stealing children, and carrying them off to eat. She put all of them in a basket of this type, containing pitch, which prevented them from escaping. |                                       |
| 3. Small twined openwork basket of cedar-root.   | <i>cxwa'xwad.</i>                     |
| This is without a handle, and is used in the canoe for containing bait, or for storing small objects, etc.   |                                       |
| 4. Close-woven twined basket.  | <i>qweyo'letcld.</i>                  |
| These baskets are light and easily handled. They were used, for one thing, in picking blueberries, which grow close to the ground, a process described below. They were employed of course in a variety of other ways.   |                                       |
| 5. A twined trinket-basket.  | <i>legwedzo'ltc.</i>                  |
| This is made of split cedar-bark.  |                                       |
| 6. Rectangular burden-basket.  | <i>ka<sup>3</sup>a'wits.</i>          |
| This is woven of cedar-root in openwork twining. (The conical burden-basket is unknown in this region.)  |                                       |

7. Small closely-woven twined basket of cat-tail.  
*gwEso'bus*  
 (*gwE'sob*, the cortex of the cat-tail rush).

8. Trinket-basket of wrapped twining. *q<sup>3</sup>ka'los*  
 This is woven of cedar-root and *Xerophyllum*.

The following might be looked upon as baskets:

The women's rain hat of basketry *xwais*  
 The basket-cap *yele'hwad*.

The last-named was not worn on the Sound, but specimens were occasionally imported apparently as keepsakes from Yakima. I also collected several large, deep baskets of split cedar limbs, woven in diagonal twining and in wickerwork. My informants insisted that the type was aboriginal, but I entertained a certain feeling of doubt, which was finally resolved by finding that the term applied to them was *haps-oltc*, literally "hop-basket." A basket of flexible twining is also manufactured, known as *ceya'ap*. Modeled after the ordinary ladies' handbag, it is not an aboriginal form.

The following terms were obtained for the elements of the basket-weave, for the various ways of manipulating them, and for other matters in that connection:

Foundation in coiled work

*tsebx*, *tša'pxegwed*, *tša':tsigwed*

The "start" of a coiled basket

*gweDzep*

"Sewing" strands in coiled work

*capwu'lcld*, *a'wutsld*

General term for the making of soft baskets

*q<sup>3</sup>ol, kwa'lap, sakwa'lkwale*

Twined work

*xala'b*

A single turn of twined work

*kwa'lstcld*

Three-strand twining

*y1xukwa'lap, qElst<sup>3</sup>e'*

Warp, in twined work

*astse'quL* "that which stands"

Weft, in twined work

*tL<sup>3</sup>o'bbEtc*

Braiding

*tcula'tsx*

Plain checkerwork

*tc1leko'ltc*

Warp on weft of checkerwork

*tca'<sup>3</sup>alos*

Diagonal checkerwork ("twilling")

*tc<sup>3</sup>1la'kap*

Wickerwork

*boc1<sup>3</sup>l, tcato'ltc*

The "finish" at the rim of a basket

*ctclltc o'tsld*

Hoop over which this wrapping is served

*dj1ltc<sup>3</sup>o'kid-tcld*

Basket handle of twisted cedar-limb

*ts aba'tadi, guda'<sup>3</sup>de*

Awl of deer-bone

*stLka'wut*

Burden-strap, or "tump-line" (so-called)

*t<sup>3</sup>qwailcld*

Design at rim of basket

*xala'iyutsid*

Beading

The last term is used, be it noted, as a dressmaker would employ it, for a flat element which is run under one stitch and over the next, and so on, for decorative effect.

*lasla'x, laca'gwulus*, "beading"

*Description of characteristic specimens*

A fairly typical example of the twined specimens produced on Puget Sound may be seen in pl. I a. The material for both warp and weft is supplied by one of the smaller species of rush. Some of this material has been dyed to give the contrasts necessary for a pattern. The dark sections in this pattern do not consist of a solid color, but are produced by twining with two strips which are colored green and black. At the border is one row of three-strand twining, composed of *Xerophyllum* and green rag, used together, first one element and then the other appearing on the surface. Above the three-strand twining is a border produced by turning the warp strands down and working them into a braid with the elements of the woof. This border is wound spirally with the *Xerophyllum* and rag, which are caught under the braid at every turn, making a very firm and ornamental finish. The basket is of coarse workmanship, but indicates at least a mastery on the part of these people of the fundamentals of the twining processes.

The foundation of the basket consists of twilling in cedar-bark strips. Certain courses of the cedar-bark have a strip of *Xerophyllum* laid along on top in such a way as to produce a simple ornamental pattern. The elements of the twilled work extend out into the twining, where they gradually dwindle and are replaced by rushes. The bottom of the basket is marked off from the sides by one row of three-strand work.

Another example of twining is shown in pl. Ib in which other materials are employed. The foundation of the basket is a rectangular section of plain checkerwork in cedar-bark. In extending the weave, a weft of rush is worked in to replace the cedar-bark while the twining for about half the height of the basket is done with strips of rush overlaid or embroidered with *Xerophyllum*. A pattern consisting of ornamental bands are produced by using a strip of *Xerophyllum* dyed yellow twined in company with a strip of cedar-bark. These two when twined together make an ornamental row of stitches, yellow and brown alternating. Toward the top of the basket the weft of *juncus* is replaced by cedar-bark, the technique remaining the same. Two rows of plain twining in the brown cedar-bark make a sort of border or finish at the top, and the edge is finished off in a braid.

Pl. Ic shows the appearance of the "witch" or "ogress" basket already mentioned. Snail-woman, who in the belief of the Indians was in former days a cannibal, had a basket of precisely this type, in which she carried off children whom she seized. When she was killed and transformed, the basket was transformed

also, and is still to be seen on her back. The type of basket which she used is still employed by human beings. The present specimen is made of strips of split cedar-bark, in a technique known as "twining on crossed warps." The foundation at the bottom of the basket consists of diagonal checkerwork. At the border of the basket the warp-strips are bent over in each case to the right and held by a turn of cedar-bark wrapping. Baskets of this weave are made also of split cedar-root. In the latter case, the warp elements are set at an angle of 45 degrees, and the open spaces in the weave take on the appearance of regular hexagons. Such baskets are rapidly made, are very strong and durable, and are used in clam-digging and for rough purposes generally.

A rougher specimen which however exhibits an interesting variety of weaves, may be seen in pl. I*d*. This is a soft basket made of cat-tail rushes. The bottom consists of checkerwork, with interpolated rows of twining running the long way of the weave. This manipulation causes the warp elements to have a ribbon-like appearance, as though a ribbon of material had been inserted into the fabric. A dressmaker would say that the warp-strands have the appearance of a "beading" of ribbon. This particular device which is rather ornamental is much affected by the Puget Sound people, and is worked out both in twining and in coiling.

At the edge of this bottom section there are five rows of three-strand twining. On the sides of the basket, the warp consists of pairs of rushes twisted around each other spirally, held by occasional rows of twining, producing an openwork weave. At the border of the bas-

ket there are three rows of three-strand twining. Above this twining the warp elements are bent over at right angles and worked into a braid.

The pack-basket of the Puget Sound region (pl. II*a*) is rectangular in shape, with a flat bottom. The conical burden-basket, so common in the Plateau and in California, is unknown in the region. The material is split cedar-root, as in the coiled basketry, and the weave is invariably open-work in "bird-cage" twining. The foundation consists of a number of cedar-root splints, laid parallel. Across the middle of these splints, another splint is laid, and held down by a double application of 'bird-cage' wrapping, one layer over the other. Additional sticks are then laid across the warp-rods, each one being held by a row of wrapping. These splints are invariably laid on the inside of the basket. Splints lying adjacent to each are wrapped in an opposite direction; in other words the direction of the wrapping alternates in the differentiations. This gives what might be styled a "herring-bone" appearance to the outside of the basket. At the border of these pack-baskets, the warp-elements are turned over at right angles, formed into a continuous bundle, and firmly wrapped with a wide strip of cedar-root, forming a sort of substantial hoop. The pack-lines used with these baskets are described in another place.

Another variety of twining is shown in the fish-trap illustrated in pl. II*d*. This device was planted in a small brook, with the mouth pointing down-stream. "Wings" of brush, stakes, or wickerwork were set so as to close off all passage and guide the fish into the trap. The



people then went down-stream and whipped the water until the startled fish swam into the basket. This form of trap is, I presume, the simplest form of all. The only thing to prevent the fish getting out is the fact that it is so narrow that they are not able to turn around. My informants tell me that they sometimes drove all the fish from a pool into this trap, packing it full. They then took it out of the water and carried it out on the bank, where they up-ended it and picked up the fish.

In the making of this trap the Indians select long, slender cedar limbs and split them into fine strips. These strips are held in place by a twining, which proceeds spirally along the trap from end to end. The material consists of splints of cedar limb, split very fine. Between one splint and the next the maker gives one full turn to the weft elements, leaving a good deal of space between the splints. The mouth of the trap flares out, short splints being added to fill in the spaces. A cedar twig is bent into a hoop and fitted into the mouth of the trap and wrapped in with a broad strip of cedar-root. This wrapping covers the last circle of twining as well as the hoop. The complete trap is the work of a very short time, but is very effective in small streams.

I referred above to a way of manipulating a ribbon of material in combination with twining to produce an effect which a dressmaker would speak of as "beading". The appearance of this weave is shown in pl. II*b*, which represents a cedar-bark basket of rather coarse workmanship. A similar ware in finer materials (spruce-root and squaw-grass) is very popular further to the north and west, where it is produced especially by the Makah

and the Nootka. In all cases the horizontal elements of the checkerwork stand out in relief between rows of twining. On the inside, the basket shows only plain cedar-bark. On the outside, the vertical strips of material are set off by narrow ribbons of white cedar-bark, which are laid right on top of the red bark strip, a narrow border of red showing at each side of the white. This white element is a genuine overlay. In certain sections of the basket it is caught merely under the twining. The artist has obtained a variety of patterns however, for in other places the overlay plunges under the woof of the checkerwork as well as under the twining, disappearing from sight altogether. The ornamental areas show in this way really a considerable variety of manipulation. The four corners of the basket have no ornamentation at all.

A rather typical example of weave which is very characteristic of Puget Sound is shown in pl. IIc. It represents checkerwork carried to a rather high development. The body of the basket is made of split cedar-bark which has a red color. An ornamental surface is produced by laying strips of *Xerophyllum* on top of the cedar-bark strips, during the process of weaving. This manipulation represents what may be regarded as logically the very simplest kind of embroidery. To relieve the uniformity of the surface, the strip of *Xerophyllum* is omitted in certain rows, so that the ornamental surface is cut up into patches or sections by rows of plain cedar-bark weaving. There is no great regularity in the technique, or in the application of the decoration; but the basket indicates a tendency toward the elabo-

ration and decoration of a simple checkerwork weave.

At the edge of this basket we find a number of rows of twining composed of cedar-bark together with *Xerophyllum*. The twining is composed of four elements, united in pairs and manipulated like ordinary two-strand twining. I never heard of this particular device in any other region. It results in what looks on the outside of the basket like ordinary twining with an overlay of *Xerophyllum*; but as a matter of fact the pattern goes through the fabric and appears in negative on the inside of the basket. This can be seen in the photograph. The basket-maker seems to have worked with two pairs of weft-elements, each pair made up of a strip of cedar-bark and a strip of *Xerophyllum*. By turning a given pair of elements so that the cedar-bark is toward the outer surface of the basket, for example, she is enabled to produce at the same time a pattern on the inside of the basket which is an exact counterpart of that on the outside, but in the opposite color.

### *Ornamentation*

Design-names are applied principally to the imbricated patterns on the "hard" baskets. The terms for these designs are a matter of some interest. Farrand supplies a list of such terms in his paper on Interior Salish basket designs and some additional terms are included in the explanations of his plates. Of the 48 terms which he makes available, 39 are from the Thompson River tribe, 5 are Lillooet, and 4 are Quinault from the coast of Washington.

The general term for basket-pattern (or for pattern of any sort) is *sxalo'lte*. Another form of this stem, *xal*, is the word applied to ordinary handwriting. The element *-oltc* means receptacle, so that a term for a basket-pattern, for example, *tsailo'ltc*, means "salmon-gill as it appears on receptacles," or something to that effect. People who wished to excel in basketry sought supernatural help from the crows, who are said to have been expert basket-makers in the myth-period. When the great transformation came, their baskets were turned into clam-shells. That is why the outside of a clam-shell exhibits a very beautiful pattern, even today.

It is obvious that designs, and terms for designs, obtained from an inland people like the Thompson Indians will show considerable divergence from terms obtained on Puget Sound. The Thompson list in fact, contains some terms that strongly suggest the names applied to beadwork patterns by the Plains Indians. In certain other cases the designs themselves resemble beaded patterns reported from the Plains area. Still other Thompson designs are strongly reminiscent of the designs painted on rawhide parflèches by the Plains tribes. From Farrand's discussion and from his plates I have compiled the following list of Interior Salish designs to illustrate this matter.

Basketry designs of the Interior Salish mentioned by Farrand (p. 392; tribe, Thompson River):

1. arrowhead
2. root
3. butterfly
4. star

5. pack-strap
6. zigzag
7. grave box
8. eagle

9. snake	22. leaf
10. snake track	23. dentalia
11. rattlesnake tail	24. maul
12. bird track	25. comb
13. bear track	26. necklace
14. flying geese	27. digger handle
15. housefly	28. leggings
16. beaver	29. canoe
17. deer	30. trail
18. horse	31. stream
19. man	32. lake
20. hand	33. mountain
21. tooth	34. lightning

The following additional design names are transcribed from Farrand's plates:

35. half-circles	Lillooet	Pl. 21, no. 9
36. flounders	Quinault	21, 10
37. human head	Lillooet	21, 11
38. earth-line	Thompson	21, 14
39. coiled snake	Thompson	21, 7
40. intestines	Lillooet	22, 1
41. net	Lillooet	22, 2
42. fern-like plant	Thompson	22, 4
43. arrowheads	Lillooet	22, 7
44. fishnet	Quinault	22, 13
45. lodges	Thompson	23, 3
46. utensils	Thompson	23, 4
47. ripples	Quinault	23, 8
48. standing-in-the- corner-of-the-house	Quinault	23, 9

### *Discussion*

Of the names just listed, the following are remotely suggestive of the art of the Plains:

4 star	34 lighting
30 trail	38 earth-line
31 stream	40 intestines
32 lake	45 lodges
33 mountain	46 utensils

Concerning the appearance of the patterns as pictured by Farrand, the following may be said: No. 45, the "lodge" design, has an appearance which strongly

suggests a painted pattern from a parflèche. Of the others, the designs representing lakes and mountains (31, 32, 33) are practically replicas of parflèche ornamentation. The "star" and "intersecting trails" patterns (4, 30) also have distinctly the effect of designs borrowed from Plains beadwork. The basket designs shown in Pl. 21 of Farrand's work (his Figs. 6 and 7, called "snake track" and "arrowhead") also suggests beadwork designs, though the names are non-committal.

Meantime it is to be noted that imbrication gives rise to a style of figure which has the external effect of beadwork anyway. It is possible to find in Farrand's work at least one basket (Pl. 22, Fig. 7) the surface of which looks as much like a beaded deerskin legging as it does like basketry.

It seems not unlikely, therefore, that the Thompson Indians have fallen under the influence of the Indians of the Plains, in the matter of ornamental designs. Obviously we should remove such designs from our list before instituting comparison with Puget Sound. The patterns remaining after such designs are eliminated offer numerous analogies with material collected by myself on Puget Sound.

With rather persistent inquiry I succeeded in getting the names of twenty designs, as follow.

#### PUGET SOUND BASKET PATTERNS

NATIVE TERM	TRANSLATION	ILLUSTRATION
<i>Xetso'ltc</i>	Plain surface with no embroidery.	pl. III, <i>a</i> , lower part.

NATIVE TERM	TRANSLATION	ILLUSTRATION
<i>Tcadtc'a'dzap</i>	"Little skirt;" a plain surface on the lower part of a basket, below a band of embroidery.	
<i>Be'bets<sup>3</sup> aiolte</i>	"Dragonfly."	pl. III, <i>a</i> , vertical stripe.
<i>La'cllec</i>	"Notched roof beam": the successive notches represent the sockets which carry the sheeting poles of the roof.	pl. III, <i>b</i> .
<i>Sxa'xaltcoltc</i>	"Sword-fern."	pl. III, <i>c</i> .
<i>Sa'statsab</i>	"Butterfly." This design is called also <i>qeuq<sup>3</sup>e'leeb</i> , a small white species of butterfly.	pl. III, <i>d</i> .
<i>TL<sup>3</sup>Elxo'ltc</i>	"Spotted."	pl. IV, <i>a</i> , in the "back- ground" be- tween the black pat- terns.
<i>XaiyExwco'ltc</i>	"House-fly."	pl. IV, <i>b</i> .
<i>Weqbo'ltc</i>	"Box."	pl. IV, <i>c</i> .
<i>Sbaditoltc</i>	"Mountain."	pl. IV, <i>d</i> .
<i>LEgx</i>	"Salmon-rib."	pl. V, <i>a</i> , horizontal lines only.
<i>Hoho'ltc</i>	"Striped."	pl. V, <i>b</i> .
<i>Tltxet exo'ltc</i>	"Something that spreads out" (as a fern does).	pl. IV, <i>a</i> , (black design).
<i>T<sup>3</sup>aLabo'ltc</i>	"Intersecting."	pl. V, <i>c</i> ,

NATIVE TERM	TRANSLATION	ILLUSTRATION
<i>Ts<sup>3</sup>Elts<sup>3</sup>Elo'ltc</i>	"Standing upright."	
<i>BtsEdzo'ltc</i>	"Snake."	pl. V, <i>d</i> .
<i>Ts<sup>3</sup>Its<sup>3</sup>lts<sup>3</sup>llo'ltc</i>	"Small objects hanging parallel." Also called <i>tstxbo'ltc</i> , "a cascade, or place where the waters of a creek trickle over something."	pl. VI, <i>a</i> .
<i>Ts'aito'ltc</i>	"Salmon-gills."	pl. V, <i>a</i> , zigzag part of the pat- tern.
<i>EsxEdsko'ltc</i>	"Zigzag."	pl. VI, <i>b</i> .
<i>Petoltc</i>	Any all-over design, or solid pattern.	

Of these patterns, the one called *sa'satsab*, or "butterfly," shows close similarity to Farrand's pattern of the same name, obtained from the Thompson Indians. The "box" design of Puget Sound has a general similarity to the "box" design of the Thompson tribe. The Puget Sound "housefly" design is identical with Farrand's Lillooet "fly" design, both in outline and in name. A Quinault design which he says is very old, and nameless, is identical with the Puget Sound *asxa'lataha'tL*; a term translated "filler," or "making complete." Farrand's "ripple" design (from a Quinault specimen) is very common on Puget Sound also. His "mountain" design (Thompson) has a general conformity with the Puget Sound figure which bears the same name. Altogether a comparison of the two lists would suggest that design names are fairly uniform over the whole Salish



area. The fact that Farrand credits the Thompson Indians with 39 names for designs, while I obtained only 20 among the Puget Sound people, *may* indicate merely that he had better success than I had. It probably reflects, however, the fact that the Thompson River people and their neighbors go much more heavily into basketry than do the Puget Sound people. Curiously enough, I found near Seattle excellent basket-makers who seemed to have no reaction whatever to inquiries about design names.

The following matter may be of interest in connection with the ornamentation of basketry in the region. Puget Sound, both geographically and from the standpoint of styles in art, seems to be an intermediate region. Along the whole Pacific coast the most characteristic basket design takes the form of a band around the utensil. An extreme form of this is shown in pl. VI*c* a Haida basket. Such a style of ornamentation as this could hardly be unearthed in any interior region. In coast basketry even where the design is complicated, the "lines of interest" in the design seems to run *around* the receptacle, horizontally. In basketry of the interior, a very characteristic thing is a design which *radiates* in a sense from the center of the basket as shown in pl. VII, *a*. It would be hard to find in any Coast basket a form of ornamental figure resembling *a* of pl. VII, while in the areas away from the coast, such radiating designs are very common indeed. In the basketry of the State of Washington, both on Puget Sound and east of the Cascades, there is a disposition to use the principle of banded ornament so characteristically devel-

oped by the Haida, but to so arrange the pattern that it gives the general effect of radiating from the center. This matter is illustrated in pl. VIIb. In the case of the specimen here figured, the design is actually disposed in a broad band leading around the basket horizontally but the "lines of interest" run from the center of the basket toward the rim.

#### MATTING

Myron Eells (*a*, p. 626) reports that the Indians have seven kinds of mats, as follows: (*a*) The largest mat is made of cat-tails and is used for lining the house. (*b*) a middle-sized mat, also of cat-tails, is used to sleep upon. (*c*) Smaller mats, of the same material, are used as cushions. (*d*) Another kind of mat is made of a short variety of rush which is round in cross-section; these are all fashioned by running warp-strings through the rushes with a needle. (*e*) A rough mat is made of cedar-bark, cut into heavy stiff strips, woven in checkerwork. This is used to clean fish upon, for drying clams, and for work-a-day purposes. (*f*) A fine mat is made of the inner bark of the cedar, in an elaborate weave of checkerwork, with designs. These are used especially for canoe-sails. (*g*) "Table-mats" are manufactured by some Indians, for sale to the Whites.

The last named have, I presume, no particular interest. To Eells' description of the other types may be added a few additional remarks. It seems best to consider the different kinds of mats in the order in which he mentions them, omitting only the last. The numbers printed herein refer to a list of native terms, as below.

a. The "wall mat" (1). The weft of this matting consists of a single layer of cat-tail rushes (2) held together by warp-strings (3) made of the "bark" or cortex from the same plant. These warp-strings are inserted at intervals of two or three inches, by means of long needles (4) of arrow-wood (5), or "meadow-sweet" (*Spiraea*). These needles are triangular in cross-section, having a broad, flat point at one end and an "eye" at the other. A set of three needles is used in making a mat. At the time when these needles are shaped from the wood, their two ends are tied together with a cord, giving the instrument a curve or bow. In this condition they are hung up to "season" (pl. VIII).

The mat-maker lays the needle flat-side down on the ground and impales a number of rushes successively on its point. The fact that the needle curves upward from the floor makes it easy to do this. When the third needle is covered over its full length with rushes, the maker smoothes down the work on the first one with a special instrument (6). These "smoothers" are in some cases rather handsome objects, with a smooth groove along the bottom, which fits over the three-cornered needle. They are usually ornamented with carved protuberances representing the heads of birds. Such instruments are made of various woods: cottonwood, cedar, and ash, among others. A series of these objects is represented in pl. IX. After the work is smoothed down, this needle is pulled through the rushes, leaving the warp-string in its trail. It is then inserted in a new place. As remarked by Eells, the ends of the warp-strings are braided together, forming a border across

the ends of the mat. The appearance of the warp-string when ready for use is shown in *illus. VI*. The ends of the rushes (that is, at the edge of the mat) are held by a course of three-strand twining of cat-tail string.

*b.* The "sleeping" mat (7). This article is made in the same manner as the preceding one, but consists of two layers of rushes. Moreover, the rushes are crowded together as tightly as possible on the warp, which gives the mat a very springy character. When spread on the hard ground, one of them forms a comfortable bed. As remarked by Eells, two of them, put one over the other, will serve to keep a person dry in a rain storm, and they are often used for this purpose when people are traveling in canoes. Similar mats, made into a roll-up, were used as pillows or "bolsters." Sometimes the row of twining which runs down the edge of these mats is made of black material alternating with white, which produces a very neat border. A specimen of the sleeping-mat is shown in *pl. XII*.

When these mats wear out, the fragments are preserved and fulfill a variety of uses. Such a section of matting has a special name (8).

*c.* The "cushion mat." These small mats (9) are made exactly like the type just mentioned, but are composed of short rushes. The Indians paddle their canoes in a kneeling posture, and these mats are intended to go under their knees, keeping the paddler dry and warm. Underneath these mats there is a sort of a floor covering (which might be called rough matting) woven of cedar twigs (10). This fills in the bottom of the boat,

and keeps the paddlers' feet and knees out of the bilgewater.

Very small mats, also of this technique, are used to cover a man's lap when trolling (11). Such a mat keeps him from being wetted with the drip of his fish-line.

*d.* The mat made of round rushes. These are fine mats made like the preceding, but of a small variety of rush. Such mats (12) serve as particularly soft and luxurious bedding, and are much used by old people. The rush itself (13) is less than half as tall as the cat-tail, and is round in cross-section.

*e.* The mat. This is an irregular mat (14), very stiff, made of cedar-bark just as it is peeled from the tree, cut into strips. It is woven hastily in plain checkerwork, is without ornamentation, and its edges are not finished off. Such mats can be made in a few moments, and are extremely useful about a camp, as for example, in cleaning fish.

*f.* Mats made of the inner bark of the cedar (15), were formerly very common around the Sound, and some of them are very handsome specimens. The checkerwork is very minute, and considerable care is taken with the matter of ornamentation. Such mats, however, are not properly Puget Sound products. They were obtained in trade from the Indians of British Columbia, or (according to Gibbs) from the Makah. People from British territory used to come in considerable numbers to Puget Sound to work in the hop-fields, and great numbers of their mats were traded to the local Indians or were sold to Whites. No doubt they were commonly in

use previous to the White invasion, probably through a very long period. Such matting has been described and figured by Boas (*d*, fig. 758, pl. 33).

*Native Terms Used with Reference to Matting*

The "wall mat"	<i>kwa'tak</i>
Cat-tail rushes	<i>o'l<sup>3</sup>al</i>
Warp-strings consisting of the cortex of the above, twisted	<i>gwa'sob</i>
Mat needles	<i>tLa'qtld</i>
Ironwood of which they are made	<i>kats<sup>3</sup>agwats</i>
Mat-smoother	<i>xada'lusid</i>
Sleeping mat	<i>got</i>
Fragment of such a mat, reserved for other pur- poses	<i>ste'qel</i>
Small mat of similar tech- nique, used as a cushion under the knees	<i>sxi'djIts</i>
Mat of cedar twigs to fill up the bottom of a canoe	<i>tLabu'L</i> ("common")
Mat made to cover a fisher- man's lap in trolling	<i>kwi-got</i>
Fine mat made of small round rushes	<i>qwekwa'ts<sup>3</sup>al-got</i>
Rushes used in above	<i>sqwe'qwats</i>
Rough mat in cedar-bark checkerwork	<i>tcItla'q</i>

Fine mat of the inner bark of the cedar, from British Columbia	<i>tca:t</i>
Strip at the border of such a mat, about which the warp or woof elements are given a turn	<i>tubca'xad</i>
The "turn" just mentioned	<i>ila'xad</i>
Place in a row of checker- work where the ends of two pieces lap	<i>s1xtca'ts</i>

## BAGS

A matter of some interest in this region is a rectangular bag made of flexible material. The fabric looks like cloth, but is made in a genuine basket weave (namely twining) with an ornamental overlay of grass or corn-husk. The noteworthy feature in their construction is the manner in which the overlay is applied. This differs from the ordinary overlay technique, termed by Mason "false embroidery." The principal points of "false embroidery," according to him, are: (1) It is not applied *after* the basket is finished (which would be "true embroidery"), but is put in during the operation of manufacture. (2) The overlay material is caught under the *outer* course of twining, so that the design does not show on the inner surface of the basket.

This so-called "false embroidery," is of course very common in twined basketry. In the bags of this region the overlay is likewise "false embroidery," but the



ornamental strip is carried around a course of two-strand twining, so that the pattern appears both on the outside and the inside of the receptacle. Mason mentions that the Thompson Indians have it, and says that the technique is not of wide distribution. He remarks, however (p. 439), that the Cayuse and Umatilla also employ it; and I have seen it myself in process of manufacture among the Yakima, the Wishram, the Shahaptian of Warm Springs, the Kutenai, and the Stoney. Such specimens are quite common around Puget Sound, being obtained, however, by barter from the Yakima, who manufacture them. I illustrate (pl. XIII) one interesting old specimen in this technique, obtained near Squaxon Island. The weft material is the so-called "Indian hemp," a fiber extracted from the dogbane (*Apocynum cannabinum*). The warp seems to be cotton string. The ornamental material is corn-husk and human hair. Such specimens were formerly much prized by the Puget Sound people. I was unable to get any information concerning a possible meaning for the design, since the bag was originally imported from the territory of another people. Such a bag is called *a'dai*.

#### BLANKETS

Mason is authority for the statement that two kinds of blankets are used in the Fraser-Columbia area, a blanket of dog wool, and one of goat wool (p. 424). Myron Eells, referring to the western side of the Sound, mentions that the following exist: (1) a blanket of dog hair, goose feathers, and "fur" from cat-tail rushes



(his remark about the use of the latter material seeming very improbable); (2) a blanket of cedar-bark string and goose feathers; (3) a blanket made of skins stitched together.

On the east side of Puget Sound I obtained descriptions of the following kinds, though I was not able to obtain specimens:

1. *Kwikwulcull'tsa*, a blanket of duck feathers, and cedar-bark string. Feathers put in a string were used as woof on a warp of plain string.

2. *Cotl<sup>3</sup>oll'tsa*, a blanket made by stitching together with sinew a number of skins of the mountain beaver. These blankets were fairly common.

3. *Ba'iyets-coll'tsa*, a blanket of dressed elk skin (*ba'iyats*, "elk"), with the hair removed.

4. *Ctce'twld-coll'tsa*, a blanket of bear skin dressed with the fur on. These were difficult to obtain at any time, and were highly prized.

5. *Qwalqwasdull'tsa*, a blanket woven of the wool of mountain goats, spun on the thigh. These blankets were very valuable and in the old days one of them was worth one slave. I did not succeed in learning the details of manufacture, but the product is evidently comparable in technique with the famous "Chilkat" blankets produced in southern Alaska and so well described by Emmons and Boas. The ornamentation of the Chilkat blanket was of course of an entirely different character, and much more elaborate.

6. A blanket woven of dog wool, *qubaiyull'tsa*. This is the most characteristic blanket in the area of Puget Sound. The first observation relating to this curious in-

dustry of shearing dogs will be found in Vancouver, dated May, 1792 (vol. I, p. 266), and it has been mentioned briefly by Mason (p. 424), by Eells (1889, p. 630), and by Gibbs (1877a, pp. 176, 219). Vancouver's passage, which has a good deal of interest, has already been quoted by Gibbs and by Allen. It is as follows:

"The dogs belonging to this tribe of Indians were numerous, and much resembled those of Pomerania, though in general somewhat larger. They were all shorn as close to the skin as sheep are in England; and so compact are their fleeces, that large portions could be lifted up by a corner without causing any separation. They were composed of a mixture of a coarse kind of wool with very fine long hair, capable of being spun into yarn. This gave me reason to believe that their woolen clothing might in part be composed of this material mixed with a finer kind of wool from some other animal, as their garments were all too fine to be manufactured from the coarse coating of the dog alone. The abundance of these garments amongst the few people we met with indicates the animal from whence the raw material is procured, to be very common in the neighborhood; but as they have no one domesticated excepting the dog, their supply of wool for their clothing can only be obtained by hunting the wild creature that produces it; of which we could not obtain the least information."

In another passage (vol. I, p. 284) Vancouver speaks of Indians "attended by about forty dogs in a drove, shorn close to the skin like sheep."

Boas (1891, pp. 566ff) gives rather full particulars concerning the manufacture among the Songish of Victoria, B. C., of blankets made of dog hair mixed with duck down. He describes the process of cleaning the dog fur of its grease, and supplied various details of spinning and weaving: altogether a most interesting account. Remarks on this subject are also supplied by Newcombe (1901, p. 51). Boas remarks that the variety of dog which was bred for wool has been extinct for some time. Little in the way of description of such dogs has been recorded. What there is has been summed up by Glover M. Allen (1920), in which he quotes a

number of authorities with reference to the area about Puget Sound, among them C. Hamilton Smith (1840), Lord (1866), and the Pacific Railroad Reports (Suckley and Gibbs, 1860). In a later paper than the one quoted by Allen, Gibbs briefly refers to such dogs. Our information, however, seems to terminate with the year 1877. Allen's remarks (p. 456) are as follows:

The evidence indicates, on the whole, that the dog was "large" and white, with pointed upright ears and a sharp muzzle. The hair is "very" thick and "very" long, though what this expression means in actual inches remains uncertain. A variety of dog referred to as "long-haired," is said to have been sheared by the Pueblo Indians [citing an account contained in Pacheco y Cardenas, as translated by Winship]. The remains of one of these ancient Pueblo dogs [citing Kidder and Guernsey] is described in effect as "long-haired, having fur 10 cm. in length." Dog-hair blankets are also reported from the Mackenzie River [citing Bannister].

Thus interesting queries are raised concerning the distribution of this custom of shearing dogs. So far as the local Puget Sound situation is concerned, I have not been able to trace the practice very far. It has been reported from what is now Puget Sound; from Victoria, B. C.; and from the vicinity of Vancouver, B. C. (Lord, chapter 11), and presumably it existed, from what Hamilton Smith says, on Nootka Sound. The last-named author's categorical statement that the practice originated among the Chinook Indians at the mouth of the Columbia seems improbable, especially since Lewis and Clark mention nothing of the kind. My own informants recall that the woolly dog was white, and tell me that the term for the variety is *k<sup>3</sup>aba'L*. The word for the ordinary variety of dog is *skuba'i*, while a dog good for hunting is termed *s<sup>3</sup>ubdi<sup>3</sup>a'lps*.

The Smithsonian specimens are illustrated herewith, with descriptive notes by Dr. Walter Hough of the

U.S. National Museum. These are marvellous specimens. The artist Paul Kane made a painting showing the spinning of the yarn, and a specimen of the dog (unfortunately only a puppy), and a woman weaving a blanket. This painting is reproduced herewith as pl. XIV, through the courtesy of Prof. C. T. Currelly, Director of the Royal Ontario Museum in Toronto.

The specimen shown in pl. XV is a "blanket-cape," or wrap for the body, collected by Lt. G. K. Warren, (USNM 1894), which was acquired by the Museum in [about] 1866. It is made in twined weaving, the materials being dog and goat hair and the down of water fowl. The upper and lower borders are plain and the sides decorated with round braided fringe. The surface of the textile presents a nap of down in alternate horizontal bands of gray and brown down incorporated in the thick structure during the process of weaving. A strip along either side is without down and has a pattern in squares of black, white, red and green.

Measurements:

Upper border	41"	Middle width	45"
Lower border	49"	Width	40"
Width of fringe	8"		

A specimen shown in pl. XVI was obtained from Frank H. Cushing, who obtained it from one of the original collections made by Wilkes or Gibbs (USNM 221, 408). This fine garment is fringed and bordered at the sides as was the former specimen. The border patterns are rectangles marked off by horizontal bands, the design being four spindle-form elements side by side in black,

the interspaces in yellow and white. The bands are black, white, brown, yellow and green. The pattern described is characteristic of a considerable region focusing in the Salish area and whose boundaries have not yet been ascertained. The main field of the blanket is covered with white down incorporated during weaving. The latter is of the twined type done by hand as in making a twined basket. The materials are dog hair, goat hair and down. On the upper corners are tassels and on the upper border thongs of buckskin for securing the wrap. Dimensions: upper border 46", lower, 41"; width, 45". Width of fringe 7"; of border, 5".

This blanket cape may be a specimen described as a "cape or shawl of goat and dog's hair" collected by George Gibbs, and the only textile specimen recorded from him. The specimen in some way came into the possession of Mr. Cushing and was found in his effects after his death and was turned over to the Museum by Mrs. Cushing.

Plate XVIII shows a specimen collected by Admiral Charles Wilkes (USNM 2124) composed entirely of dog and mountain goat hair yarns dyed and undyed, by process of twined weaving. The patterns are alike on both sides as in the Navajo blanket. In some cases the weaving follows the design; that is, the warp is inclined at an angle. The pattern is in four divisions, as follows: across the top are three bands with designs as in the tapes; the center is composed of three bands of yellow, margined with black and with a black line through the middle, all on a white field. The white field is flanked by a rectangular area divided into equal sections of

bands and zigzags. The lower portion is in 8 bands of serpentine, diagonal and straight lines. The colors are natural wool, black, dark brown, red, yellow and blue. One band of red and blue appears to have been derived from the ravellings of European fabrics, the rest are in native dye. The blanket is fringed on three sides, the elements of the fringe twisted and not braided. Width from top to bottom 50"; breadth, 62"; fringe, 7" long.

Plate XVII illustrates a Salish feather cape made from the white, gray barred and iridescent dark brown feathers of various water fowl (USNM 2119, collected by Admiral Wilkes). The feathers are fastened to fiber cord by wrapping the cord around the quill ends. The middle portion of the blanket is of gray barred feathers bordered with white. The outer border is a wide band of dark brown glossy iridescent feathers. The robe is feathered equally on both sides. It is a remarkable and perfect specimen, probably unique.

Dimensions: Width 45"; length 63".

Dark bands 7", white 3", mottled gray 26".

A shoulder cape of eider down is shown in pl. XIX (USNM 1894A, collected by Admiral G. Wilkes). It is composed of twined weaving of dog and mountain goat yarn, with which are incorporated strips of down-bearing skin of the duck. The weft consists of a small cord of dark fiber.

Width 31"; length 52".

## THE SPINDLE

The spindle used in this region is mentioned by Myron Eells (*a*, 635) and by Boas (*b*, p. 565). While neither of these authors speaks of the spindle as borrowed from the Whites, there is some question as to its native origin. Mr Newcombe of Victoria is reported to be of the opinion that they are strictly aboriginal. A spindle mentioned by Boas, with a "fly-wheel" of whale's bone, and a shaft three feet long, is much larger than any on the Sound. Boas and Eells seem to have described somewhat different methods of manipulating the spindle, as the following passages will indicate.

"The material to be spun is fastened to one end of the stick, the opposite end is taken in one hand and rolled over and over in the lap, while the other hand holds the yarn. . . ." (Eells.)

When in use, the upper end of the shaft rests between the thumb and first finger of the left, while its lower end stands on the ground. It is turned with the right hand by striking the lower surface of the disk." (Boas.)

A characteristic Puget Sound spindle, made of oak and devoid of ornamentation, is shown in pl. XXIV*a*. Spindles from the regions to the west and north of Puget Sound are nearly always ornamented with figures, geometrical or animal, carved in relief.

## PACK STRAPS

The burden-strap made in this region is of the type commonly used throughout western North America, having a broad part which fits the forehead, and two lines which are passed around the load which is to be carried. Most of the burden-straps which I obtained



were already made fast to berrying-baskets by means of deerskin loops inserted in the rim of the basket for that purpose. The berry-picker, in beginning to work, ties the empty basket in front of her, passing the braided lines about her waist and knotting them. In this way both of her hands are left free for picking. In pressing her way in among a lot of thick bushes, she often bends over, covering the basket with her forearm and in this position backs into the bushes. When she has picked all the berries within reach, she emerges, and enters the bushes somewhere else. When starting home, the basket is slung on her back.

The pack strap or "tumpline" enables a woman to carry an extraordinary load. In the old days a burden of a hundred and fifty pounds, with a baby on top of that, was not unheard of. This is considered nowadays a pretty full pack for a horse.

The braided lines for the pack strap are said by Eells to be made of fiber from alder-bark. The broad band for the forehead was formerly made of dog-wool yarn. Those collected by myself are of a badly demoralized type, being composed of string of various sorts, and commercial yarn. They show a simple ornamentation, in which zigzags predominate (pl. XX). These designs may very well be a direct survival of the old blanket patterns.



## WOODEN OBJECTS

### DISHES AND SPOONS

Spoons and dishes are mentioned by Eells, but he did not trouble to supply serviceable descriptions. Both the dishes and the spoons of Puget Sound are highly characteristic in form, and have, I think, not hitherto been figured. I have seen two representative dishes from this area, and three others, apparently not completely finished. One of these I could not purchase from the Indian who owned it, for she treasured it as a keepsake. The other one I obtained for a couple of dollars and turned in to the University of Washington State Museum (to my subsequent regret). The two finished dishes which I saw were exactly alike, except that the one which I purchased was much older than the other. Such dishes are made of alder wood, and are hewn down to a surprising thinness, not more than a quarter of an inch. They are much less substantial than the wooden dishes of the areas to the north and south. The shape is a pointed oval, with a rounding bottom. The oval depression which forms the inside of the dish does not extend entirely to the ends. This produces the effect of a rim at each end of the dish, forming a sort of lip.

Three apparently unfinished dishes were purchased for the Museum of the American Indian from an old Indian in Seattle. They are smaller in size than the others mentioned, and are not hewn so thin. The ends of these dishes have not been finished off as in the other cases. It may be worth remarking, by way of

comparison, that the wooden dishes of California are trough-like, and square at the ends.

Those of Alaska and British Columbia have a more graceful shape, and a more trim and finished appearance. The Puget Sound specimens are elongated and flat, and rather shallow, and without character. (See pl. XXI)

As remarked by Eells, spoons are manufactured in the Puget Sound region of wood, of antler, and of horn. They are of various sizes, some of them designed to serve the purpose of ladles, being flat, awkward, heavy, and blunt at the point, really resembling our ladles in shape. Those examples which exhibit better workmanship have distinct points of similarity to the spoons of Alaska and British Columbia. They are markedly unlike the spoons of northern California, which are made invariably of elk antler, have very thin and delicate shanks, and exhibit a variety of carved geometric ornament suggesting designs from basketry pl. XXII. The bowl in California spoons is normally flat, and squared off at the tip. Good specimens from the Puget Sound area resemble the Alaska spoons in having a deep bowl, pointed at the front end. If the best spoons of Puget Sound and California were compared, I think one would be justified in saying that the California spoon is lighter in weight, but "heavier" in design. The Puget Sound spoon in some cases is beautiful in outline, though almost devoid of ornamentation. The spoons of Puget Sound conspicuously lack the carved and painted designs representing totemic animals, so characteristic of the Alaska coast. (See pl. XXIII).

Spoons of mountain goat horn are fairly common, but spoons made of the horn of the mountain sheep seem to be absent from this area, except for a few specimens imported from the east.

#### ROASTING STICKS AND SKEWERS

It seems appropriate to describe here certain devices for cooking. Most of the food in this area was broiled, roasted, or baked. The people on Puget Sound made little use of the boiling process, a fact that probably accounts for the opposition they exhibited, when the explorer Vancouver offered them a "venison pasty." The explorer's idea at the time was that they mistook the deer-meat for human flesh. I have seen Indians who object to boiled and stewed food merely because it looks "messy." The Indians of Puget Sound were familiar with the process of boiling liquids by putting in hot stones, although they used it very little. They used to bake things (clams, ducks, and vegetal foods) by putting the product in a pit lined with hot stones and covering it over. At this operation they were very skilful, and even at the present day they bake clams in this way to admiration. For roasting food they had a few simple devices. Clams and pieces of meat were cooked by being pierced with a skewer of cedar (*see* pl. XXIV*b*) and set up in a slanting position in front of a fire. For roasting a salmon, another device was necessary. The fish was split, and held open by a skewer. Spread open in this way it was placed, tail down, in a madrone stick, prepared for the purpose by splitting

(pl. XXIVc). The two halves of the stick were then shut together, and tied around the top with a piece of cedar-bark. The stick, which was sharpened for the purpose, was set up in the ground before a fire. When "done" on one side, the stick was simply turned over to expose the other side of the salmon to the heat.

This is the contrivance seen by Swan among the Chehalis, in 1857. He describes it (p. 108) as follows:

"The salmon is cut into large, flat slices, with skewers stuck through to keep them spread; then placed in a split stick, as a palm-leaf fan is placed in its hangle, with the ends of this stick or handle projecting far enough beyond the fish to be tied with a wisp of beach grass to secure the whole, this stick is thrust in the sand firmly and at the right distance from the fire so that the fish can roast without scorching. Clam shells are placed underneath to catch the oil. Neither pepper, salt, nor butter were allowed during this culinary operation, nor did I find they were needed; the delicate and delicious flavor would have been spoiled by the addition of either.

"I was so pleased with this style of cooking that I never wish to have it cooked in any other way, either boiled and served with melted butter, or fried with salt pork, or baked with spices. The simpler a fat salmon can be cooked, the better; it retains its flavor with perfection, and is more easily digested; and the only style is to roast it before an open fire."

#### CRADLE BOARDS

The cradle board is mentioned by Eells, who refers also to the appliance for flattening the infant's head, producing the remarkable deformations of the cranium so characteristic of the region. He says that the cradle consists essentially of a flat board, and that the flattening apparatus has been so often described that he "can say nothing new about it." I have never happened upon descriptions of figures which refer to the Puget Sound region, so venture to describe their device here. The hard board which forms the foundation is only about three-eighths of an inch in thickness. At various

places in the board a number of holes were drilled. Through certain of these lashings, cedar-bark strings were inserted, which passed over pads of shredded cedar-bark and were passed back through other holes, being made fast at the back of the cradle. The baby's feet rested against one of these pads, while another fitted under his neck. Another string was passed along the edge of the board down through one perforation, and up through the next, forming a row of loops which serve for tying him in. The baby, wrapped in shredded cedar-bark, was then folded like a parcel in an old blanket, and placed on the board. He was then laced in with a leather thong which was caught in zigzag fashion into the loops mentioned above. A leather strap at each side of the child's face is split into a number of thongs, to each of which a piece of string is made fast. These strings were passed across the fore-part of the infant's head. By these strings pressure was brought to bear on the whole fore-part of the cranium. Underneath the strings was placed a pad of cedar-bark, which kept them from cutting the skin. The back of the child's head was, of course, crowded against the board, so that there was a secondary deformation in the occipital region. The operation, to the surprise of all commentators, does not affect the child's intelligence. "Some who have the head flattened," says Eells, "make as good scholars as those who have not been thus treated" (pl. XXV).

Boas (*b*, pp. 647-655) has given the anatomical details of the effect on the crania of these processes. He points out that there are three types of compression: (1) the "Chinook" type in which the forehead is exces-

sively flattened, while the cranium is allowed free expansion laterally; (2) the "Cowichan" type, in which the crown of the head in the region of the lambdoid suture is depressed by pressure; (3) the "Koskimo" type, in which compression-cushions are applied on the front, on the top, and at the sides of the cranium, which accordingly grows into an astounding elongated shape. The people in the vicinity of Seattle, as shown by the shape of their heads, followed the first or "Chinook" practice. The younger people, of course, show no deformation of any kind (plate XXVI).

The cradle board hangs by four cords in a horizontal position from a slender pole which is thrust into the ground. A long cord is attached to the top of this pole. At the other end is a loop. The mother puts her great toe into this loop, and "jiggles" the baby to keep him quiet while she works at various things. A similar apparatus has been described and figured by Boas.

Concerning the distribution of various types of cradle boards, a great deal remains to be said, and the facts are by no means clear. It is obvious, however, that in so far as northwestern North America is concerned, the people of the interior lean toward a flat type of cradle board, while most of the coast peoples use a boat-shaped or box-like cradle. Some interior peoples use what is really a *cradle-board*, cut from a flat piece of plank; among them the Nez Percé, the Spokane, the Cowlitz, the Colville, the Okanagan, the Kutenai, the Flathead, and the Uncompahgre Ute. This in many cases has an elaborate covering of hide. Other interior tribes make an object for carrying children, which is

also flat, like a board, but is made up of rods or splints joined together. Thus the Hopi have a flat frame of vertical rods held by wickerwork; the Yaqui fasten rods together with crosswise slats; the Ute of Nevada hold the rods with rows of twining, like basketry; and so on. It is clear, I think, that a very large area is inhabited by peoples who have cradles, the essential feature of which is a flat foundation. As furnishing examples of the boat-like cradles, there might be mentioned the Yukon tribes, who make them in birch-bark; the Bella Coola, who make them of light planks; the Chinook, who hollow such cradles out of a log; and the Hupa and Pomo, who make them of basketry. Most of the types I have mentioned so far are described and figured in Mason (1889). From a general point of view, the cradles of Puget Sound resemble the interior type.



## IMPLEMENTS

### CANOE PADDLES

Eells (1889, p. 642) mentions that there are two kinds of paddles in use on Puget Sound: a "man's paddle" and a "woman's paddle," but he does not describe them. These are illustrated herewith in pl. XXVII. The "woman's paddle" is short and light, and differs from the other in the configuration of the blade, as shown in the illustration. Eells gives a wrong idea of the strokes used by the two sexes. Women always dip "straight over the side," holding the paddle vertically. Their stroke is quick and jerky, with a lot of movement in the wrists, and results in a good deal of splashing. The men make fun, in a polite way, of the women's way of going about the work. They themselves, take a longer stroke, and in recovering, move the paddle as nearly horizontally as possible in a wide semicircle. The water which drips from the paddle is in this way scattered, falling in separate drops and making a very light patter which can scarcely be heard. This is very important in warfare and in hunting the porpoise and other creatures, where the least noise is to be avoided.

The particular shape illustrated in the man's paddle is claimed to be the one form which "drips" less water than any other. My informants say that while a pointed paddle, like that used by certain tribes, *enters* the water with less noise than does the present model, there is a bad "drip" when such paddles are lifted, causing a spatter and splash. I daresay this is princi-



pally a matter of skill, not of the configuration of the paddle, for the tribes of Alaska use a pointed paddle in hunting sea-mammals, with no apparent difference in results. The Puget Sound people, however, insist that their type of paddle is constructed according to the most scientific design.

The blade of the paddle is always colored when it is new, though in old paddles the color is often worn away. The best specimens I saw were colored with "Indian red" (ochre), called *Li'extid*, which is dug from the ground, kneaded by the women into lumps, and baked. The lumps are then broken open and the reddest portions picked out. These are pounded up as fine as flour, and mixed with salmon eggs (*xalx*). This combination gives a beautiful dull red, which seems to adhere to a surface almost as well as our commercial paints, though it has no gloss.

Some paddles are colored black instead of red, by painting them with a dried fungus from hemlock blisters (probably *Ganoderma tinctorum*), mixed with urine. The paddle is then held for a long time in the smoke of a fire, which turns them a fine, glossy black. The paddles obtained by myself had been so long in use that most of the paint is worn away.

In addition to the two types of paddles already described, I found a number of specimens which were described by my informants as "racing paddles." They are made much wider in the blade than the other type, which gives them great driving power. At one period canoe-racing was a favorite pastime with these Indians, and canoes were specially built for such contests very

long and excessively narrow (see plate XXVIII). Such canoes, it can be safely assumed, are not modeled after any aboriginal pattern, but are copied after our own racing shells. Whether the racing paddles are aboriginal or not, I cannot say, but my informants think that they are.

The most desirable paddles were made of yew, *tʰE'bahats*, *tsE'xɛbld*, but this tree was not plentiful. Maple was the wood most commonly used. The various steps in the manufacture of a paddle may be seen in plate XXIX. The shaft is first trimmed down to almost the proper proportions with the adze. The secondary smoothing is done by scraping with a knife, and the final polish is given by rubbing down with a piece of dogfish skin which serves as sand paper. Near the head of the blade, where the hand grasps it, the shaft is circular in cross-section. Near the upper end the shaft is flattened out and made correspondingly thin. The upper end is finished off in a cross-piece, *tsE'p'lqe'd*, which is in some cases separately made of cedar, mortised and attached to the paddle with cedar pegs. This is the arrangement provided in the case of one of the paddles shown in the illustration. The point of the blade is called *sʰilqs*, and a great deal of care is expended in giving it the proper shape.

#### ADZES

The Puget Sound adze (*kwe'ʌius*) is a very effective instrument, used for a wide variety of purposes. It has a very short handle (usually of vine-maple, *te'ktekets*;

sometimes of yew, *ts<sup>3</sup>E' xubid*), which is carved to fit the hand. At the present time, adze blades are, of course, of steel, usually made out of old files or rasps. The instrument is designed so that it balances very nicely.

Eells (*a*, p. 631) speculates as to whether or not such adzes were used for cutting down trees. He says that near Dewatto ("Dewater") and Dosewallups, on Hood's canal, there are trees that have been partially or wholly cut by such "axes." A tree on the Muckleshoot Indian reservation, which had been felled by Indians, was pointed out to me by Mr Arthur Ballard. The people had worked from the uphill side of the trunk, apparently cutting in at two separate places and "splitting out." When the tree was more than half cut through, they had moved to the downhill side, evidently working a number of feet above the ground on a staging of poles. Here they had made a shallow trench across the tree. The marks of the cutting implement were very plain. It had a very narrow blade, and had evidently been used with a lot of wrist motion. The implement was either an adze, like those collected by myself, or a light hatchet. An adze would have been perfectly effective for the kind of work which had been put in on this old stump. When the work had proceeded to the point mentioned, the tree had fallen, leaving on the downhill side of the stump a spur some thirty feet high. It was at the base of this spur that we examined the marks left by the instrument. The trunk had subsequently been cut into sections, one or two of which were lying on the hillside, overgrown and much de-

cayed. A green fir tree, more than ten inches in diameter, was growing upon the old stump, so that the cedar had evidently been felled a long time previously. It was impossible to photograph the stump, as there was not sufficient light.

Whether or not the adze was used for felling trees, it was used for a great variety of operations. The various types of canoes were made almost entirely with the adze, and so were house-planks, bows, paddles, dishes and spoons. The work is first roughly blocked out, and then the carpenter carefully hews "to the line," depending entirely on his "eye" for everything, even for the complicated and delicate curves of the canoe-bottom. Small objects were then scraped with a stone knife, and given a final dressing down with a piece of dog fish skin, or with the stem of the "scouring-rush" (*Equisetum robustum*), either of which fulfilled the uses of sand-paper. With care, very smooth and pleasing surfaces were produced (plate XXX).

A series of Puget Sound adzes is illustrated herewith (pl. XXXI). The handles are carved into ornamental shapes, but there are no further efforts at decoration. Some adze handles are found made of elk antler, and of the shoulder blade of the whale. These latter are probably importations from the Makah at Cape Flattery, where such adzes are common.

#### MAULS

The maul or pounder of the Puget Sound region is almost precisely the counterpart of implements used

along the entire coast. It is a stone tool with a broad head, and a rim at the top to keep the hand from slipping. These mauls were used in connection with wedges, in canoe-making and in other pursuits. In hollowing out a tree, excavations were cut with the adze, and the wood was then blocked out in chunks by means of the maul and wedge. Characteristic specimens of the maul are shown in plate XXXII. One of these is of the California shape, while the other has the conical top characteristic of the British Columbia tribes. Specimens of the wedge I was not able to obtain. They were made of yew, or of hemlock knots, or of elk antler; the last-named being the best.

#### DIGGING STICKS

An implement of first-rate importance in the life of the Indian was the digging stick. Carlson, in writing a biography of Chief Seattle, says (1903, p. 15):

"There is little or nothing known of his boyhood, but undoubtedly his training was the same as that of other Indian boys, which consisted of learning to shoot the arrow and handle the tomahawk."

If our author had said that Seattle's training consisted in learning to wield the digging stick, he would have been considerably closer to the mark. In the ethnology of the region, tomahawks are conspicuous by their absence. The digging stick, on the other hand, was of vast service. The roots and bulbs of which the more substantial part of their vegetable food consisted, the cedar-roots for their basketry, the clams which were dried and stored away, were all obtained with this im-

plement, and even the great pits for their houses were excavated with the same device. The men, as described by Vancouver, assisted in much of this work.

The digging stick is a short piece of ironwood, flattened at each end and pointed. It is carefully seasoned, and the ends sharpened and hardened in the fire. For digging clams, it is used just as it is. The clam-digger jabs one end in the mud and gives the other a circular motion. It goes into the mud very rapidly. In this exercise, the old women, who are very adept, flex their bodies at the hips, and bend far down, as though they were trying to touch their faces to their feet. In this position they reach about very quickly and easily, and work with astonishing speed. They are used to this posture, and take it very easily. I once saw an elderly Indian woman washing her hair. For the minor operations she sat in a chair with a tin basin of water before her on the floor. When she wanted to rinse the suds off of her scalp, she stood up, so as to get her head down close to the pan. Clam-diggers loaf around camp and take things very easily until the tide is at its lowest ebb. When the best beds are exposed, they set to work and move with remarkable quickness, gathering a supply of the best clams before the tide returns. At the present time short-handled forks have entirely replaced the digging stick, a few specimens of which, however, I was able to obtain (plate XXXIIIa).

For digging roots the stick is equipped with a cross-piece of elk antler. This object has a perforation in the middle, into which one end of the digging stick is driven (see the plate). The operator puts his two hands

against this cross-piece, and pushes against them with his chest. The Puget Sound people are short in stature and the stick is of the right length to make the operation easy for them. For digging in soft or damp earth the apparatus is not so ineffective as it would appear to our eyes to be. When the point becomes broken, the stick is easily reversed, the dulled end being inserted in the handle.

#### BERRY-PICKERS

Certain devices are in use among the Indians of Puget Sound which I have not seen mentioned in connection with any other area. Two kinds of berry-pickers might be mentioned as examples. Both types show a considerable measure of ingenuity. Berries are very important in the diet of these people, and these contrivances make berry-picking a very rapid process.

*Picker for red elderberries.* — This device is made by taking a short wide piece of cedar wood, and splitting it down from one end, into thin strips. Cedar-bark fiber is found tightly around the other end to keep the whole together. The sections or splints are then separated by driving wedges in, so that they spread apart like the fingers of the hand. Their points are then sharpened. In this condition the instrument, which can be manufactured in five minutes, is ready for use (pl. XXXIV*a*).

In berrying, the Indian breaks the elderberry bushes down, pulls the branches off bodily, and piles them on a mat. Then he picks up one branch at a time and "whips" it with the implement. The operation detaches the berries, but not the twigs and leaves. In this way he



strips the "brush" of its fruit, which latter falls on the mat. When the mat is covered, the berries are poured into a pack-basket.

*Picker for "blueberries."* – In dry and sandy vicinities quantities of a rather large, blue berry are found, growing close to the ground, on a small vine. For gathering these berries a special instrument has been devised. On Squaxon Island I purchased a couple of these, made of cow horn. My informants assured me that the device was aboriginal, having been made, in former days, of elk antler. It resembles in a general way the instrument just described, being much smaller, however, and having a set of curved fingers. The berry picker sets out with a coiled burden basket on her back, and in her left hand she carries a light twined basket. In picking berries, she holds the twined basket with its edge against the ground, and with the tool in her right hand she then scoops the berries off the vine into the basket. From time to time she jerks the berries over her shoulder into the coiled basket on her back. The pickers are almost unbelievably quick at this operation. In this exercise, as in clam-digging, they flex their bodies at the waist until they could almost touch their elbows to the ground. In this position they sway around very easily, and allow nothing to escape them. The apparatus described is pictured in plate XXXIV*b*. The logical similarity between the use of this equipment and the use of the seed-beater outfit of the Paiute and other Interior tribes, is obvious, though the utensils employed are different.



## HUNTING IMPLEMENTS, NETS, AND TRAPS

### BOWS

Vancouver (vol. I, p. 137) speaks in admiring terms of the Puget Sound bow and of the skill the Indians exhibited in using it, but he does not supply the details of their marksmanship. The bow described by Vancouver was sinew-backed, in the usual way, and had a reverse curve when not in use. Eells (*a*, p. 632) gives the added information that the ends of the bows are bent "by being wrapped in seaweed or moss and buried in the warm ground very near the fire, where they steam, after which they are easily bent." The only specimen I have had a chance to examine, in the collection of Mr Arthur Ballard, fits very well into this description (*see* plate XXXIII*b*). Mr Ballard is suspicious of this specimen, being inclined to consider it as a model rather than an implement for use. It has a "pull" of about twenty pounds, and would therefore scarcely serve for hunting. The shape of it I think we may regard as characteristic of the bows made on Puget Sound. It is practically a replica of those made by the Kwakiutl and figured by Boas (1909, fig. 168).

### FISH SPEARS

Three types of fish spear are reported in the region bordering on Puget Sound. They are: (1) A two-pointed

spear with wooden foreshafts, the latter equipped with toggles, which are held to the shaft by a double lanyard. (2) A spear with three points, each of them barbed but without detachable toggles. (3) A spear closely resembling the spears commonly seen in Eskimo collections, which might be described as having an elastic strip fastened on either side of a sharp spine. Each elastic strip has a single barb pointing inward, arranged in such a way that when the spearsman strikes a fish, these strips spring apart and the quarry is held between them. We might call these devices the "two-pronged spear," the "trident," and the "grab-spear." On the Sound the first type certainly existed. The "trident" type was and is in use among a nearby people, the Makah at Cape Flattery (Swan, 1870, p. 16). It is pictured by Swan, and specimens are in the Museum collections. The third type is used by the Kutenai (consult Chamberlain, p. 564). Eells (1889, p. 633) remarks that the Indians on the western side of Puget Sound have "fish-spears made with three prongs and sometimes with only two." Whether or not all three types formerly existed on the Sound, I cannot say. I can only describe the two-pronged spear which is still in existence and of which I have collected some excellent specimens (*see* plate XXXV).

It really assumes two forms, one form having detachable heads or toggles, being, in strict terminology, a two-pronged *harpoon*; the other, a type with fixed heads. This second type was used for flounders and other "bottom" fish, which are sluggish and rather easily speared and lifted aboard. The salmon, however,

is so large and active that detachable toggles are necessary. Otherwise the fish, in floundering about, breaks the harpoon. The Puget Sound device is quite like the implement used by the Indians of California. A shaft of fir or of cedar is selected and made very long and slender. At the tip, two prongs of ironwood, from 14 to 18 in. long, are fastened. First a lashing of string is served entirely around the prongs and the shaft together; then the string is carried for a couple of turns *between* each prong and the body of the shaft, making what a seaman would call a "throat seizing." This is one of the most effective ways in the world of lashing two bodies together, since the second manipulation tightens the first, with a multiplication of the power applied, on the principle of the "parbuckle." In the case of the weapon under discussion, the prongs are held very rigidly in place. In the old days string of Indian hemp (*Apocynum cannabinum*) was used, twisted on the thigh.

A point of deer-bone was next sharpened. Barbs of deer antler shaped for the purpose were set on each side of it wound with string previously dipped in pitch. The whole forms the "gig" or toggle head, which is exactly analogous to harpoon heads I have described. At the present time, the bone point is replaced by a wire nail, and the antler is usually supplanted by cow horn. A lanyard of braided string joins the two toggles, the ends being "unlaid" or unraveled, and worked around the toggles under the lashings. The whole toggle is then coated with resin to make it smooth. The lashing which holds the ironwood prongs of the spear

in place is then wound with a wide strip of wild-cherry bark. In this feature the Puget Sound specimens differ from spears which I have seen in California. When preparing the implement for use, the middle of the lanyard is fastened around the shaft of the spear by means of a clove-hitch; then the toggles are seated on the sharpened points of the prongs. The slack of the lanyard is then taken up by moving the clove-hitch up the shaft, which holds the toggles in place until the fish is struck. At the first wrench the toggles come off of the prong and the fish is held by the lanyard only.

The Puget Sound fish spear has a second attachment which I have never seen in California. At the butt of the shaft, namely, is attached a block which has notches to accommodate the fingers. The construction of the butt of the spear is shown in the diagram (plate XXXIV). The shaft is beveled from each side to form a wedge; two pieces of wood are fitted to these beveled surfaces and fastened down with pegs; the whole is then served with string or cherry-bark. The advantage of this attachment is clear, for it enables one to drive the spear from the butt, which, in reaching deep in the water, is an important point.

For hunting otter and porpoise, a similar but somewhat heavier two-pronged spear is used. At Cape Flattery and among the people of Vancouver Island the porpoise-harpoon is heavy, and one of the prongs is a full span longer than the other. If, in hurling the harpoon, the hunter misses the quarry with the first point, the second sometimes "gets him." I had a pre-conceived idea that the form of the device just described was used

on Puget Sound, but my informants from first to last denied all knowledge of it. They employed apparently a spear of the ordinary two-pronged type. The porpoise, however, was too large to handle in the way just described, for in plunging about he was likely to upset the canoe. For the porpoise hunt the people accordingly fastened the toggles to a long line, at the end of which they bent on a float, carved in the form of a duck. When the quarry was struck, they threw this wooden duck overboard and let the porpoise run away with it. Porpoises were hunted usually on the darkest nights since at other times it was almost impossible to come up with them. On rare occasions, when the water was muddy, they could hunt them in the daytime. The hunter on moonless nights guided himself largely by the flashes of phosphorescence which marked the movements of the porpoise. After the "strike," they sometimes lost sight of the quarry altogether, in which case they listened carefully and were guided by the sound. When the porpoise dives, the float I have just described goes under with a "plump." The best floats are made with a flat lower surface, higher at the edges than in the middle. These go under with a kind of hollow reverberation, which can be heard for a long distance on a still night, ringing along the surface of the water. A specimen which is only moderately good is shown in plate XXXVII.

The float was used also for very large salmon. These fish in some cases raised a great commotion when struck, and jerked a small canoe about, threatening an upset. In that case the fishermen threw the float over

and let the fish run away with it, picking it up later, when the fish was tired, and pulling him in.

The parts of the spear are shown in the diagram. The native terms are as follow:

Toggle, *t³aL*.

Point of toggle, *st³E'gwld*.

Barbs, *sxala'udi*; made of antler, *gwa'dEqʷ*.

Socket at the base of the barbs, into which the fore-shaft fits, *skalpuL*.

Foreshaft, *tse'Egw³Ets*. The operation of fastening these on with a "throat-seizing" is *stL³eldi's*.

Lanyard, *səsgwa'ats*.

Shaft, *tc³E'sai*.

Extra pieces at the butt of the spear, *xut³e'txal*.

Notches for the fingers, *titxala'p*.

Float, *te'tkwob*.

A spear especially intended for hunting porpoises, which was somewhat more heavily made than the salmon spear, was called *ca'sab-ld*, "porpoise-implement."

Porpoise hunters had to attend very strictly to business, as the quarry is very wary and very quick. Their methods compare very closely with those used by the Kwakiutl, described by Boas (1909, pp. 500-504). Porpoise hunters never speak nor cough. To draw one another's attention to anything, they rock or shake the canoe, and point. They have to be careful about shifting their feet. Hunting porpoise is for this reason very tiring.

Two men ordinarily went together—a harpooner,

and a steersman or "captain." The following terms connected with the porpoise hunt may be of interest:

The harpooner, or hunter, was called *ke'wai*. The part of the carcass consisting of the lower jaw and throat was reserved for him. This was called *sko'a' iutsid*. The steersman was called *e'laq<sup>s</sup>*. The remainder of the head, called *ska' iyus*, was reserved for him. The section of the animal just ahead of the tail was called *ska'p<sup>s</sup>ap*. Anyone who helped land the quarry on the beach received this latter part. The remainder of the carcass belonged to the harpooner, who gave it away at his own pleasure, distributing it among the people. Porpoise meat was cooked by steaming it in a pit with hot stones.

#### HERRING RAKES

The herring rake is a commonplace implement along the whole Pacific coast north of Columbia River, and does not need much description. Two characteristic specimens are shown in plate XXXVIII. Such an implement consists of a long piece of light and strong wood, the handle part of which is rounded off while the blade is flat. Into the edge of this blade are driven pegs, which are subsequently sharpened. In former days these pegs were of ironwood, but nowadays they consist of small nails, filed to a point. Fishermen used to carry with them a supply of extra pegs to replace those which became broken.

A man and his wife usually worked together in getting herring with this implement. The woman sat in the stern of the canoe and paddled, while the man sat in the bow facing her. When they got in the midst of a school of herring, he took the "rake" and swept the surface of the water, moving it in a wide semi-circle toward the stern of the boat and then giving it a jerk or fling. Herring which became impaled in the points were thus thrown into the canoe.



Informants have told me that by these methods it was sometimes possible to fill a boat with herring in an hour.

#### BIRD SPEARS

My informants describe a three-pronged spear used for hunting birds though I never succeeded in obtaining a specimen. The Ferry Museum at Tacoma has one specimen on exhibition, but where it was obtained they could not tell me. Eells (*a*, p. 632) describes this device. A platform of earth was arranged in the stern of a boat, on which a fire was kindled. A mat was stretched across in front of it, and in the darkness in front of this mat the hunter stood with his spear. His helper then paddled out into open water. Ducks were attracted and confused by the light, toward which they swam. The hunter would then jab at them with the spear or throw it at them. I am told that the duck spear had to be thrown with an underhand motion, along the surface of the water. If the hunter gave it a toss, so that the spear became up-ended, he never got the quarry. If it were done that way, "the duck," the Indians say, "would dive, every time." The only specimen of this type of implement I was able to find was from the Makah. It seems to correspond closely to the device used on the waters of Puget Sound proper. In foggy weather two men could sometimes load a canoe with ducks in a couple of hours.

This spear is manufactured very much along the lines of the fish spear, except that it has six barbs instead of two. It has a similar long, slender shaft with



notches for the huntsman's fingers at the butt. Two foreshafts are made fast at the tip, exactly as in the salmon spear. The foreshafts are of yew. Each one is split, an elk antler point inserted, and the "joint" where the two lap served tightly with twine. The point of elk antler is flat and has a series of barbs on its outer edge. Four additional foreshafts, somewhat shorter than the first pair, are attached in pairs. The two original points project several inches farther forward than the others. Each pair of points is arranged with its barbs on its outer edge. It is clear, I think, that this implement has been evolved from the ordinary two-pronged fish spear, which is a device of very wide distribution.

#### FISH WEIRS

In another publication (Waterman, 1920a) I have described a type of fish weir built by the Indians of northern California. This structure was erected at a considerable expenditure of labor, and was the occasion of a variety of religious ceremonies. An analogous structure was built on Puget Sound, briefly described by Eells (*a*, p. 634). Like the California structure, it is supported by a series of tripods extending across the stream, along the tops of which two stringers are laid. In California the weir is composed of split stakes, each one separately driven with a flat stone and placed so close together that the fish cannot get by. In the Puget Sound area the "strainer" is made in separate sections of slender poles or rods inclosed by a sort of framework (*see* plate XXXIX. Each section is about four feet

wide and six feet tall, the rods being held in place by four rows of plain twining of twisted cedar limbs. The exact manner of erecting the weir I was unable to learn; nor could I learn of any religious rites or taboos in connection with it. Unlike the Yurok, the Puget Sound people saved these "sections" and stored them up for use season after season. Some of these sections may be seen in the illustration.

The weir when it was completed prevented the fish from passing up-stream, and hence they congregated thickly at the barrier. They were actually taken from the water in two ways. Sometimes openings were arranged which let the fish through into pens, while in other cases the fishermen operated from the weir itself with dip nets. Great numbers of fish were easily taken.

#### DIP NETS

The dip net used in this way is of very wide distribution. I have seen it in use among the Yurok, and Newcombe reproduces a photograph of a similar net in use on the upper Fraser River. On Puget Sound a net of "Indian hemp," in the form of a large pointed bag, is suspended from a hoop (plate XL). This hoop, again, is made fast to a pair of poles which are arranged in a shape like the letter V. Some distance from the ends of these poles is lashed a transverse bar of wood. A set of strings lead from various meshes of the net to the upper part of this frame. These strings are tightly stretched between the net and the crossbar, while above the cross-bar they hang slack. The net when ready is

lowered into the water and the fisherman waits. A salmon on entering the net is sure to touch one or the other of these strings, in swimming about. The slightest touch moves the string and takes up the slack part above the bar. The fisherman, who is put on the alert, then jerks up the net and clubs the fish.

Other kinds of nets and also traps were in use, of which I have not obtained any good descriptions. Some large permanent traps built of piles evidently correspond to the fish-traps found by Boas among the Kwa-kiutl, and so well described by him (1909, pp. 461 ff.). I have native terms for two kinds: *yida'dali* and *ts<sup>3</sup>ulu'sld*. These were contrived in such a way that they could be built in an open bay or in a lake. When the level of Lake Washington was lowered in 1909 by the cutting of a canal, the remains of such a trap in Union Bay, near the State University, were said to have been uncovered; but I could obtain no coherent description of it.

#### FISH HOOKS

In regard to fish hooks we find an interesting situation. To the north of Puget Sound a variety of fish-hooks are in use. Some of them are highly specialized and very ingenious objects, and are beautifully made. In California, fish hooks were practically unknown, I think; the Indians depending rather on traps, weirs, spears, and dip nets.

The nature of hooks used on Puget Sound becomes therefore a matter of some interest. One very simple manufactured hook called *Li'dap*, was employed. It

consisted merely of a splinter of hard wood or of bone lashed at an acute angle with Indian hemp to a straight shaft of wood. Fastened to a twisted line of the same fibre, and baited, this device was occasionally put into service, especially in trolling. Sometimes a still ruder device was employed, consisting merely of the spine from the head of the rat-fish. This fish boasts a curved projection, which bends over above his snout. At the base of this spine are some bristles. This whole object was removed from the fish, and dangled at the end of a hemp line at the stern of a canoe. It was not necessary to bait it, for the object itself is white and the fringe of bristles served to attract hungry fish. When a fish swallowed it, the fisherman drew in the line very gently, and then with a sudden jerk threw the quarry into the boat. Unless the fish swallowed the object "pretty good," as the Indians say, the apparatus would not hold him.

A sudden break in the distribution of the elaborate fish hooks characteristic of the coast of Alaska and British Columbia is thus encountered in the region of the Strait of Juan de Fuca. Such elaborate hooks apparently did not extend to the area of Puget Sound proper, though along the west coast they extend somewhat farther southward. There is evidently a rapid reduction in the importance of fish hooks in the life of the people as the observer passes southward, until in northern California only the simplest type is reported, consisting of a string with a sharpened cross-piece at its end. I have obtained descriptions of this device from Tolowa and from Pomo informants. A splinter of bone

is taken and ground sharp at both ends, and to the middle of it a line is tied. The device is then baited and dangled in the water. When a fish swallows it, the fisherman pulls on the line, causing the splinter to turn crosswise in the creature's throat. This device, which seems to be the simplest of all possible fish hooks, is said to be in use to this day in the rural districts of England where it is called a "sniggle," from an old word *snig*, meaning an eel. Here the device is used apparently only for catching eels. In southern California, particularly on the Channel Islands, curved fish hooks of various types are found among the archaeological remains. The distribution of each form is a matter that ought to be worked out in very careful detail.

#### AERIAL NETS FOR DUCKS

In this curious device we seem to have another invention highly characteristic of the Indians of Puget Sound. Some informants insist that these nets reached a length of sixty fathoms. Sometimes they were strung between two trees, while in other cases tall poles were set up for the purpose. The net hung from a cable, the ends of which played over dumb-sheaves which were fastened on the supports. The ends of the cable were then made fast at the ground. The spots selected for setting such snares were places where ducks were likely to pass. In every neighborhood there are certain localities that lend themselves particularly to this purpose. If one "starts" a flock of wild ducks in such a place, the birds, owing to the nature of the site, tend to fly over

a certain route. For example, where there is a low neck of land between two bodies of water, wild ducks, owing to some mysterious law of their nature, in passing from one lagoon to the other, fly over the place where the land is lowest. The Indian set his net in such a place, and then sent a helper out to "stir the ducks up." In some cases the hunter was able to dispose his net in such a way, in relation to the background, that it was practically invisible. When the flock of ducks struck the net, the ends of the cable were slacked away, and the net with the ducks in it came down on the run. As soon as it struck the ground, the hunters set sharply to work whipping it with sticks to kill the ducks before they escaped. This operation is called *tca'xwat*. Astonishing numbers of ducks were trapped in this way. The device was used especially when preparing for a potlatch. This rigging is termed in the native dialect *tkēp*, and a place where such a net is set is called *tkēba'le*. This term occurs a number of times as a place-name in the vicinity of Seattle.

Captain Vancouver, in exploring Puget Sound, found certain tall poles set up at different places. He could not ascertain what they were for, but it has since become evident that they evidently were used to support such apparatus as that described. He mentions two definite points where such things were seen—New Dungeness and Port Townsend. One of his engravings shows a third set of poles, situated at an unspecified point near the southern part of the Sound (plate XLI). He mentions such poles as being commonly seen by him. His passage (vol. I, p. 225) is worth quoting:

"On the low land of New Dungeness were erected perpendicularly, and seemingly with much regularity, a number of very tall strait poles, like flag-staves or beacons, supported from the ground by spurs. . . They were, undoubtedly, intended to answer some particular purpose, but whether of a religious, civil, or military nature, must be left to some future investigation."

Vancouver speaks also (p. 234) of

"a long sandy spit at Port Townshend where seventeen of the long supported poles had frequently presented themselves, though in less number than on the present occasion; but though these afforded us an opportunity of examining them, they did not contribute the least instruction concerning the purpose for which they were intended. They were uniformly placed in the center of the low, sandy spit, at the distance of about eighty yards from each other, and it would seem that they were required to be of certain definite heights, though not all equally high. They were in general about six inches in diameter at the bottom, and perfectly strait; and when too short, a piece was added, which was very neatly scarfed on the top of each terminating in two points like a crescent, or rather like the straight spreading horns of an ox. The tallest of these poles I should suppose to be about one hundred feet; the shortest not so high by ten or fifteen feet. Between several of them large holes were dug in the ground, in which were many stones that had been burnt, which gave these holes the resemblance of the cooking places in the South Sea Islands."

Meany in his edition of Vancouver's journal (1907, pp. 85-86, note) supplies some "information" concerning the device in question. He quotes an Indian informant in the following terms:

"Long ago their people had no muskets, but they got many canoe-loads of ducks by large nets. They set great high poles in the ground. From one of these to another they stretched nets woven of willow twigs. At night or in hazy weather the ducks would strike these nets when the watchers would pull a rope of twisted roots or twigs fastened to a loop of the net and down would come a flap, holding in the strong meshes of willow the entire flock of ducks. It was practically a fish net made to work on land. . ."

It is difficult to imagine that the people could have made these nets of willow twigs. Probably the fiber extracted from willow bark is meant. I have notes concerning such a net which was in the possession of an old man at Port Townsend. The central section was made of nettle-fiber (*l<sup>3</sup>a'bal*), the other parts of willow-bark fiber. My informants tell me that the best nets



were made of the fine fiber called *qa'gwalul* ("Indian hemp"), obtained from the dogbane (*Apocynum cannabinum*). This material is ideal for the purpose, being very fine and of surprising toughness. A strand of it can scarcely be broken in the bare hands without risk of cutting them. This material was imported from the vicinity of Yakima, and a net made of it must accordingly have been a valuable piece of property. Vancouver's statement that the supporting poles were "a hundred feet tall" deserves polite consideration, being the estimate of a seaman who was used to viewing masts and spars. I think we are safe in assuming, however, that none of the poles were taller than that. One of Vancouver's plates represents a pole of this kind, which seems, judging from the stature of the people in the same picture, to be about thirty-five feet high.

My informants tell me that duck snares were set up at the following places in the vicinity of Seattle:

1. On the lower course of Duwamish River, within the present limits of Seattle. The particular spot pointed out is where the river makes a bend to the west and washes the base of the West Seattle bluff. This is the first bend above the mouth of the river. Flocks of ducks which were disturbed on the river above this point used to follow the course of the stream and swing around to the north under the shadow of the cliff. A net which was formerly set at this point is said to have been highly effectual.

2. At a low point between Queen Anne hill and the business district of Seattle. It is said that ducks "started" on Lake Union would fly over this spot.



3. On Agate Pass, south of the town of Suquamish. Flocks of ducks, when started, used to fly down the pass. A net used to be set right across the pass between two trees and caught large numbers of ducks. The contrivance last used at this spot belonged to Peter Rodger's mother's paternal grandfather, the brother of Chief Kitsap. My informant himself remembered seeing it.

4. On "Ostrich Bay," at the southern side of Dye's Inlet, near the town of Chico. The configuration of this bay lends itself to this operation, for there is a quiet lagoon, surrounded by hills, entered by a very long and narrow passage. This body of water is separated by very narrow peninsulas from other inlets. Over these narrow places the ducks are sure to fly.

5. At a place called Q<sup>3</sup>e'k<sup>3</sup>thub, between Colby and Port Orchard.

6. At a spot known now as Portage, where Quartermaster Harbor is separated by a very narrow isthmus from the Sound.

7. On an isthmus connecting Day Island with the mainland, at a point due west of Tacoma, near the landing of the ferry which operates to Wholloch Bay. In going from one of the bays to the other, across the marsh, the ducks struck the net. Men with canoes went out and "stirred them up," while others stood by to cast off the net at the proper instant.

The native terms for this apparatus are as follow (see plate XLII):

1, 2. Poles, *xo'xwed*.

- 3, 4. Dumb-sheaves of antler or yew-wood, through which the rope plays, *cbabe'alus*, described by Vancouver, who says, "These are the 'tops,' terminating in a crescent, or rather like the straight spreading horns of an ox." They sometimes took the form of a wooden ring.
5. Cable, carrying the weight of the net, *tsabe'lud*.
6. Net, *so'yah*.
7. "Eyes" through which the cable passes, *cxwe'kebid*.

## GAMES

Three forms of gambling apparatus were known to the Puget Sound people. There was a game played with two bone cylinders, a game played with wooden discs, and a woman's game played with beaver teeth dice. The first of these games seems from the available evidence to be universal among the tribes of the Pacific slope. It has been called the hand game, the grass game, and (in southern California) the game of "*peon*." On Puget Sound this bone game is called *slaha'l*. The game with wooden discs has a closely similar name, *slahalb*. Gibbs in his *Nisqually Dictionary* (1877*b*) gives the first word as the name for both games.

The bone game has been very often described. One of the cylinders is plain, the other has a stripe around it. A player conceals the bones under a blanket or otherwise, and passes them back and forth, finally holding one in each hand. His opponent indicates where he thinks the plain bone is. If correct, he takes the bones, and his opponent guesses. If he is mistaken, his opponent takes a counter and they try again. Usually ten counters are involved. All must be won to make a "game." (plate XLIII).

THE DISC GAME (*slahalb*). — The disc game has been described by Eells (1889, p. 648) and by Boas (1891, p. 571). It is apparently identical in principle with *slaha'l*, the difference being merely in the form of the objects and the manipulation of them. A number of discs are provided, "milled" or raised around the edges,

which are marked with notches or vertical grooves. One of these discs is different from all the others. Under cover of a mat, the discs are shuffled about, and arranged in two piles, which are hidden in shredded cedar-bark. The opposing side has to "guess" where the special disc is. According to Boas' account of the Songish, a man takes a counter when he *loses*. When all the counters are in his hands, he has lost the game and the stakes (plate XLIV).

THE WOMEN'S GAME (*bi'tali*). — This game has likewise been described by Boas. The equipment consists of four incisors of the beaver, etched on one surface. Two marked with transverse lines or scorings (*xwI' txcwItc*) are called "men," and two marked with small circles "women." Each die has one blank side (illus. XLIII). Around the mid-section of one of the "men" is a wrapping of string.

Such dice are shaken in a basket and thrown out on a mat. Counters to the number of twenty or thereabouts called *sxats* are used; these are made preferably of duck-bone. When one player has won all of the counters, the game is finished.

The "throws" arranged in the order of their importance are:

THROW	COUNT	NATIVE TERM
The marked man up, all others down, or vice versa,	4 sticks	<i>q<sup>3</sup>e'is</i>
All dice up,	2 sticks	<i>bEq<sup>w</sup></i>
Men up, women down,	1 stick	<i>stubc</i>
Women up, men down,	1 stick	<i>sla'dai</i>
Any other arrangement,	Nothing; the player surrenders the dice.	<i>LbE'kwas</i> , "finished."

## THE POTLATCH

My attention was once called to an argument concerning the nature of the potlatch on Puget Sound. The usual idea of the potlatch among the local authorities" is, that it is a festivity at which money is expended on a very lavish scale by the host, and at which he distributes gratis among the guests a large quantity of property. The institution of the potlatch among the Kwakiutl of Vancouver Island, as portrayed by Boas (1897), is a somewhat different thing. The attendant pomp and circumstance is much the same, but the potlatch among the Kwakiutl is described as a very elaborate method of transacting exchange, at which the amount of every "gift" is arranged for in advance. The "gift," moreover, must be returned at the expiration of a given term, with a certain stipulated interest (an outrageously high one, according to our standard). The argument to which I have alluded was whether the Puget Sound potlatch was a free entertainment, or a meeting, as among the Kwakiutl, for the transaction of business. It is a matter of some interest, therefore, to compare the potlatches of the two areas.

In both cases the potlatch is a combination of feasting, entertainment, disbursement of property, and religious ceremonies. The central feature, on Puget Sound as in the north, is the pecuniary one, the other features being clearly subsidiary. In both areas, anything which partakes of the nature of a payment is made the occasion of ceremonies, into which the other elements,

social and religious, invariably enter. Any kind of a payment, even the payment of a debt, takes on the character of a "potlatch." Thus, on Puget Sound the payment of sums in satisfaction of a homicide, and the purchase of a wife, were alike considered occasions for potlatches. So also with funerals. If a man's daughter dies, he begins at once to save up a little property. Later he sends out invitations to various people. On the day appointed he exhibits in public his daughter's ornaments or other things. Then he presents each of his guests with a few dollars in money and some other property. This performance increases his prestige. When the guests have a "celebration" in their turn, the mourner is entitled to an invitation. In both of the areas mentioned, potlatching is the principal means of acquiring influence and rank. To give a potlatch, as the Indians say, "makes a man's name high." After a great potlatch "the giver's name goes all over."

On Vancouver Island and in neighboring areas the principal form of movable property, at the time when the accounts were written, was a fifty-cent cotton blanket, obtained from the Hudson's Bay Company. These fulfilled exactly the purpose of our money, and prodigious numbers of such blankets, amounting to many thousands, changed hands at the great potlatches. The northern tribes also kept in their possession certain curious objects of copper (in late years usually made of the copper sheathing from vessels), which correspond to our bank-notes of high denomination. Some of these "coppers" were worth six thousand blankets, or more, each. Neither the cotton blanket nor the "cop-

per" seems to have circulated on Puget Sound. In both areas a great variety of other property was distributed at potlatches. On the Sound a definite, recognized medium of exchange seems to be lacking. The carefully stipulated rate of interest, which is so conspicuous a part of the northern system, seems also to be absent. A man was supposed merely "to give back more than he got" and the greater the surplus, the higher his credit and renown. The whole performance was on a less elaborate scale than among the Kwakiutl, corresponding to the simpler culture of the Sound Indians. I know of a potlatch in recent years where a number of old-fashioned Indian adzes were distributed. China dishes and cotton cloth were very commonly parceled out. In another case, bed-quilts were "given away." One informant "potlatched" a lot of live turkeys. Finally, Dr Gowen of the University of Washington mentioned in my hearing a British Columbia Indian who distributed a lot of tombstones by this means.

There can be no real question about the psychology of the potlatch on Puget Sound. An Indian distributes his property with the definite expectation of getting back an equivalent. He first pays his obligations, and then distributes the surplus of his accumulations where he thinks it will be in the best hands and will give him the maximum return. The Indians living on the eastern side of the Sound held potlatches, but they never invited to these festivities the people across the mountains; they had relations with these Yakima in the way of intermarriage and direct barter. The eastern Indians did not, however, understand potlatching and

they never made the proper return; so to invite them to such a performance was sheer waste.

The principal forms of property distributed at potlatches in the old days are as follow:

Ear-ornaments of abalone (*Haliotis*) shell, *stL<sup>3</sup>EtL<sup>3</sup> wa'de*. One such ornament was worth a slave.

Dentalium shells, used for money and as ornaments, *ho<sup>3</sup>tL, s<sup>3</sup>o'laχ*. This is believed to come from lake-bottoms, far to the north. Ducks killed at Pleasant Beach often had dentalia in their stomachs. Beads made of clam-shell, in the form of discs, or strings, *tc<sup>3</sup>a'wai*.

Dog hair blankets, *qubaiyul'tsa*

Mats, *got*.

A man preparing to give a potlatch sent out an "inviter" to various groups. This inviter made a formal presentation of a stick as large as one's finger. He also gave the invited guest other sticks, to indicate the amount of property he was to receive. People were invited from the distant Chehalis country, from Skagit Head, and in some cases even from British Columbia. Every group came in a body. They halted off-shore a little distance and sang songs, in preparation for making their landing. Each group had a functionary who led the songs and made the necessary speeches. When they landed, somebody appointed for the purpose led them to their quarters and gave every person a blanket. During the subsequent festivities there were frequent performances of a ceremonial nature, each



group singing its own songs and dancing, while the other people looked on.

The observances sometimes took the form of a test of strength between groups. The people brought in a long pole of hemlock and put it across the middle of the house. One group got on one side of it, and another on the other side, and began shoving. Each group resisted to the utmost. Apparently anything short of outright murder was considered legitimate. It was customary to trip an opponent, or to stick him gently in the calf of the leg with a knife-point. Sometimes a man was collared and dragged bodily over the pole. This was spoken of as a "capture." One incident of this kind is still spoken of. A very large and heavy man named A'loxwabc, from what is now the town of Potlatch, on Hood's Canal, came to a potlatch at Suquamish and was a conspicuous figure in a contest, "hollering a lot" and making a display. The Suquamish people waited until they saw a chance. Then one man suddenly seized him by the neck, while another dived for his feet and threw him over the pole, a feat which put him out of the contest. Later his people "bought him back," as they would a person enslaved during a raid. This game sometimes grew extremely rough.

It was also the custom to hold scrambles for property. A fine cashmere blanket, for example, would be thrown to a crowd. Every person tried to get hold of it. A man acquired title to all that he could gather in his fists. At the close of the contest he might sell his equity for cash; in other cases the amount he held in his hands would be cut bodily from the blanket and re-woven

into other fabrics. Sometimes there would be a "scramble" for a canoe or a gun. In more cases than one a canoe has been fairly pulled to pieces in this way.

The following is a list of terms used in connection with a potlatch:

Inviting people,	<i>sgwi' gwi</i>
A concourse of people,	<i>saqo' go</i>
The one who carries an "invitation",	<i>sqa' il ltc</i>
The small stick carried as a token,	<i>sxutL<sup>3</sup>a' l lq<sup>w</sup></i>
Sticks used to represent the amount of property one is to receive,	<i>sxwE<sup>3</sup>L<sup>3</sup>Eb</i>
Loose property, available for dis- tribution,	<i>stā' bi<sup>uks</sup></i>
Making payment of any kind,	<i>s<sup>3</sup>a' bal lq<sup>w</sup></i>
The amount demanded as satisfaction by the relatives of a slain man,	<i>sgwi' al lq<sup>w</sup></i>
The tender of a price for a girl; the bride-price,	<i>s ldz lL<sup>a</sup> l lq<sup>w</sup></i>
The amount paid for a girl,	<i>dzE' lEd, or</i> <i>ladzE' ltco</i>
A girl's dowry,	<i>ctca' iap lL</i>
The distribution of the property by the bridegroom,	<i>tc<sup>3</sup>ia' pad</i>
Blanket which is given to a man when he enters the potlatch-house,	<i>SEXWE<sup>3</sup>laba<sup>3</sup></i> <i>ltu</i>
The actual distribution or handing around of property,	<i>s<sup>3</sup>pa' kqegsEb</i> <i>sk<sup>3</sup>Eka' lgw ltc</i>
The property or apportionments which a man hands out in this way,	<i>ūt<sup>c</sup>ūla' s</i>

That which one receives at a	<i>cwE'CEb</i>
potlatch,	<i>ela'kwad</i>
The surplus, when a gift is returned;	
“interest,”	<i>ubE'lq<sup>w</sup></i>
The “tug-of-war” game,	<i>sxa':dzatL<sup>3</sup></i>
Being “shoved back” in this game,	<i>uq<sup>3</sup>E'q<sup>3</sup>tlb</i>
“Scrambling” for property,	<i>sxoba'le<sup>3</sup></i>
A social gathering,	<i>sdju' ll</i>

I mentioned above the objects used by the Indians for money. Their terms for our money are somewhat interesting. Gold coin is called *xi'kwitL*, meaning “red.” Silver money they call *ta'la*, which is their pronunciation of the name of our largest coin; but sometimes they refer to a dollar simply as *tc<sup>3</sup>e<sup>3</sup>i' lz*, “one.” Silver coinage in general is sometimes called *xwe'q<sup>3</sup>wExw-ta'la*, “white money.” A fifty-cent piece is *iltcEx*, “half.” A quarter of a dollar is *sa'l<sup>3</sup>i-bi-bit*, “two-bits,” a phrase which goes back ultimately to the Spanish (“dos reales”).

Concerning the actual potlatch performances, we have a long account by Eells (1889, pp. 657–669). His description of the potlatches which he witnessed on Hood's Canal in 1876 is the best piece of writing he did. I am sorry to say that I have nothing to add to his description, although he raises many points of interest. One of my informants has seen potlatches on the western side of Squaxon Island (a spot still called Potlatch Point); at Chico; at Skagit Head; at Riverside; at a place within the present city limits of Seattle; and at Brush Point. Other informants have seen potlatches at

Suquamish. In very recent years an Indian called John Seattle, living on a farm at Auburn, gave a potlatch which cost \$1400, most of which sum was distributed in cash. I did not succeed in transcribing an account of any of these performances.

## RELATIONS BETWEEN THE CULTURE OF PUGET SOUND AND THAT OF OTHER AREAS

I should like to give very briefly an account of the apparent relationships of Puget Sound culture. In some respects it is clearly related to the culture of the north Pacific coast tribes; in other respects the area links clearly with California or with the Plateau. In a few points it is highly individual. This may be illustrated by the following:

*Geographical Ideas* — There are many analogies in geographic concepts and terminology between the Yurok and such a distant tribe as the Haida of southern Alaska. The Puget Sound people, however, exhibit an innocence of this whole geography complex which is really surprising. The Yurok and the Haida both have names for houses; the Puget Sound people have none. The Yurok and the Haida have cosmologies, and they are strikingly similar. The Puget Sound people seem to have none. They certainly have no highly elaborated cosmology such as have been described among the Yurok, Haida, and the Bella Coola. Let me say, too, that the concept of "town" is largely lacking on Puget Sound. Any Yurok is willing at a moment's notice (and for a reasonable fee) to reel off a list of towns in his own territory and in the territory of each of the neighboring tribes—Wiyot, Tolowa, Karok, and Hupa. The people on Puget Sound must have led a very roving life, for when I asked where their towns were, they looked at

me blankly. They think of them rather as camping-places. My impression is that in cosmological notions, and ideas of geography, the Puget Sound people are similar not to the Yurok or the Haida, but to the tribes of the Plateau.

*Basketry* – The art of basketry in the Puget Sound region is on the whole in a flourishing condition. We find a considerable variety of weaves; the finished basket is compact, and extremely well-made, the stitches are regular, and the ornamentation is often singularly attractive. Among the Coast tribes to the northward and southward of Puget Sound twining is the predominant technique. On passing northward from the Sound an abrupt transition from coiled to twined technique is observable. The materials remain largely the same, spruce-root taking the place of cedar-root. In passing southward to California, twining also predominates. The only Coast tribe known at all well by myself use twined techniques almost entirely. In this direction there is a substitution of other materials for the split roots. In regard to the technique of basketry, however, we can say that the Puget Sound people link with the Interior tribes. The “imbrication” characteristic of the Sound is not so lavish as that done by the Interior tribes, and it does not cover so much of the surface of the basket. The Sound people in this connection appear very much like a folk who have partially given up an “Interior” type of basketry, substituting for it, to a certain extent, work in wood.

I have already made the point that in their designs they show certain “Interior” features, their style of

decoration representing an imperfect assimilation to the characteristic basketry patterns of the Coast. Examination both of their techniques and, their designs, leads one, then, to somewhat similar conclusions.

*Mats.* — The Puget Sound mats are relatively simple, and ornamentation is practically absent. As compared with matting of Vancouver Island, the Puget Sound industry occupies a remote and marginal position.

*Bags.* — The making of bags is not a Puget Sound industry at all. The occurrence of specimens in the region is an illustration of their contact with the interior.

*Blankets.* — In regard to the weaving of blankets, the vicinity of Puget Sound is obviously an outlying province of a great area of diffusion, the center of which lies probably north of Vancouver Island. The most elaborate examples of weaving in the whole region have in recent generations been produced among the Chilkat of Alaska, almost at the northern boundary of the area. The Puget Sound people seem to be well toward the southern fringe of the same blanket-producing area. The industry has never been reported from the Coast tribes south of Puget Sound. The style of the Puget Sound loom and its appurtenances would also point to the inference that they were on the edge of the area. Their ornamental figures consist of extremely simple geometric designs.

*Spindles.* — Little is to be said about these devices, except that the Puget Sound specimens are small and those which I have seen are perfectly devoid of ornamentation. Specimens decorated in rather handsome

and intricate patterns have been reported from the tribes farther north (*e.g.*, Boas, 1909, fig. 68).

*Pack straps.* — The literature on the neighboring areas gives no account of these commonplace but useful objects. They were undoubtedly in use far and wide. The device is so general that comparison would hardly be fruitful, except for details of material and weave. The Puget Sound specimen was not made of hide, but was woven.

*Dishes.* — It is difficult to say where the area stands in regard to its dishes. I suppose most observers would recognize a general similarity with the dishes of northern California. The workmanship on Puget Sound is vastly better, and the utensils are made of harder woods. Certainly the Puget Sound dishes conspicuously lack the artistic style of those made by the Kwakiutl and northern tribes.

*Spoons.* — Here the analogies, both in material and in artistic style, are all with the North Pacific coast. Ornamentation is of the simplest character, and in both shape and decoration the specimens resemble the smaller and simpler spoons of the Kwakiutl (Boas, 1909, p. 423).

*Cradle board.* — In regard to the material used in these objects, the Puget Sound people link with the Kwakiutl. In form, the Puget Sound cradles seem to be behind either the Kwakiutl or the Yurok, having meanwhile a general similarity to the cradle boards of the interior.

*Adzes and Mauls.* — Mauls hardly supply a basis for comparison, for the device itself is too simple. More-



over, I have seen only a few Puget Sound specimens. Adzes are commoner, and I collected a considerable number. The California people use a curved handle of stone, the Puget Sound folk a handle of vine maple, built along conspicuously different lines. The North Pacific people use handles mostly of bone and antler. The California implement, from its configuration, would hardly be called, logically, an adze—it is more like a chisel. The Puget Sound instrument is a genuine adze, and in that respect the area is to be connected with the Northwest coast. I nowhere have seen adzes, however, that exactly corresponded to the Puget Sound specimens.

*Digging sticks.* — The implement used on the Sound is quite different from the Kwakiutl implement figured by Boas; it differs especially in being pointed at both ends. I think we would be justified in regarding it as a simpler instrument. I never heard of a digging stick being used among the Yurok, so in this respect Puget Sound goes with the Northwest. In California roots were replaced as an article of diet by acorns and grass seeds, for which no digging stick was required.

*Berry-pickers.* — The berry-pickers seem to be a Puget Sound invention, for I have not seen it described elsewhere. In any case it serves to set the people off against the California tribes, in whose dietary berries are of no importance.

*Bows.* — Here the analogy is clearly with the Kwakiutl, the Puget Sound bow being steamed at the ends and bent by pressure into a sharp curve.

*Fish spears.* — The two-pronged salmon spear seems to be practically identical among the Yurok, the Puget Sound people, and the Kwakiutl. The tribes on the west coast of Vancouver Island have gone considerably further with the development of such implements. In the use of floats or buoys as attachments for the spear, the Puget Sound people are obviously linked with the Kwakiutl.

*Fish weirs.* — In regard to these specimens there is a good deal of similarity in many points up and down the whole coast. The Yurok fish dam has a close counterpart among the Puget Sound Salish and among the Kwakiutl. The basket trap of Puget Sound is identical with those used in certain parts of northern California. The Kwakiutl basket trap is a much more complicated contrivance, and much more neatly put together. In regard to other forms of traps, the Puget Sound people go with the Kwakiutl. For example, the Puget Sound Indians build pens in lakes and bays, in which pens the fish are impounded. The Yurok never did this, nor anything similar.

*Dip nets.* — The use of a dip net, rigged on two diverging poles, is common enough the Yurok. My information is scanty, but photographs published by Kermode and reproduced by Newcombe (1909, pl. 24) show that a comparable device is used on the upper part of Fraser River. The Puget Sound people also employed this contrivance. Here they diverge from the Kwakiutl.

*Fish hooks.* — In the use of fish hooks the people of Puget Sound are obviously connected with the tribes

to the northward. Fishhooks are of no importance to the tribes of northern California. On Puget Sound they were not of great importance, but angling was an occasional resource. The Makah of Cape Flattery relied entirely on the hook and line for their subsistence. They manufactured excellent hooks, of a number of different types. From the Makah northward, fish hooks are of prime significance, as far at least as the area occupied by the Haida. The Puget Sound people link with the North Pacific tribes, though they seem to be in a transition stage.

*Aerial Net for Ducks.* — I am unable to find mention of this device in any other area than Puget Sound. Comparable devices exist, including nets for catching birds, but I never heard of a net hoisted into the air on poles set up for the purpose.

*Games.* — Of the three gambling games played on Puget Sound, only one, the game of discs, is really characteristic. Even this is merely one form of a game of enormous popularity over a tremendous area—the so-called hand-game. It is evidently comparable to the Haida game, played with gambling-sticks of cylindrical form. An exactly analogous game, with a bundle of very thin billets, is played by the Yurok. Evidently the Coast people have specialized one fundamental guessing game into various forms, using wooden objects in place of bone, and increasing their number. I believe that we are correct in saying that there is a local development in regard to the *form* of these objects, which is highly characteristic of Puget Sound.

*The Potlatch.* — The institution of the potlatch is

definitely limited to the salt-water tribes of the Pacific coast. In its north and south distribution, it has apparently not gone south of Columbia River; or in any case, not much south of it. The general background of this institution is a notion that *rank* is synonymous with *wealth*. In other words, the fundamental thing is a concept of wealth-aristocracy. In its most characteristic form, in which the distributions of property are periodic, and are accompanied by lavish entertainment, the device is limited to the tribes north of the Columbia. Even the Puget Sound tribes have the institution in a much weakened and diluted form. As far as the Yurok are concerned, the whole thing is foreign to them. I cannot imagine a Yurok giving a potlatch, unless he had previously lost his mind. In other words, the Yurok do not make their wealth by financial operations, but by direct hoarding. The Puget Sound people go in the clearest way with the tribes of the North Pacific Coast.

*Canoes and Houses.* — I believe that in regard to the canoe and all its appurtenances, the Puget Sound people occupy their logical place in a line of diffusion which has passed down the coast. They are clearly to be linked with the peoples to the north of them rather than with California people; and are probably not far from the point at which the evolution of canoes proceeded most rapidly. My reasons for this inference has been outlined elsewhere (*see* Waterman and Coffin, 1920). My impression of the Puget Sound house also has been elsewhere expressed. In brief, it is that their type of house shows clear evidence of intrusive influences from the Plateau (*see* Waterman, et al., 1921).

## CONCLUSION

To carefully balance the above evidence and to properly weigh each item would require more wisdom than I possess. In regard to certain specific traits, however, I seem to see clear evidence of influences from the Plateau. These influences have apparently burst in on a culture which was in process of gradual diffusion from north to south. Among other matters which reflect this intrusion, prominence might be given to basketry, the construction of the house, money, and the ideas of cosmology and geography.

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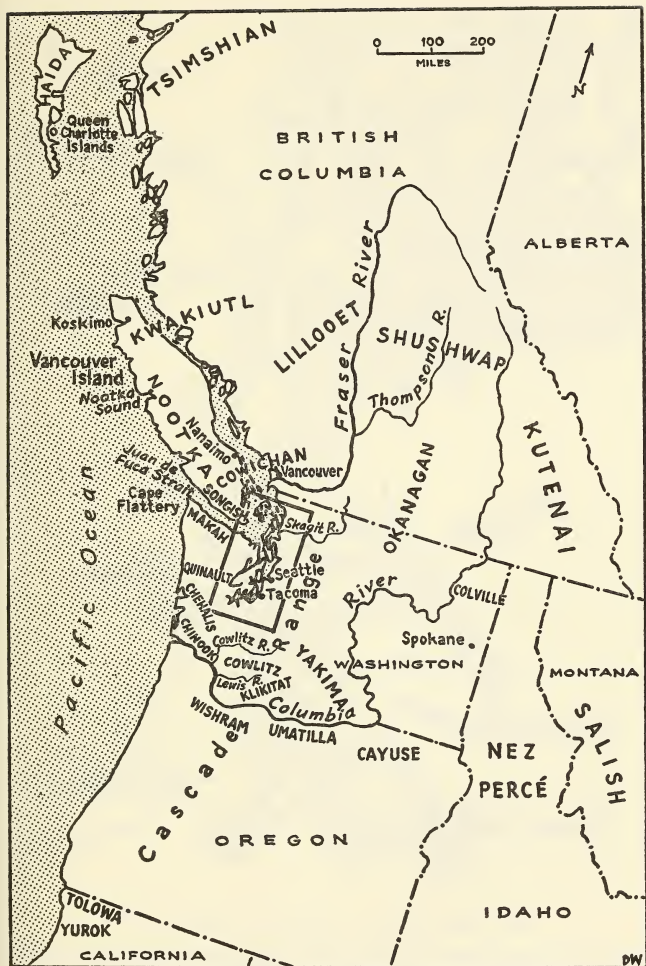
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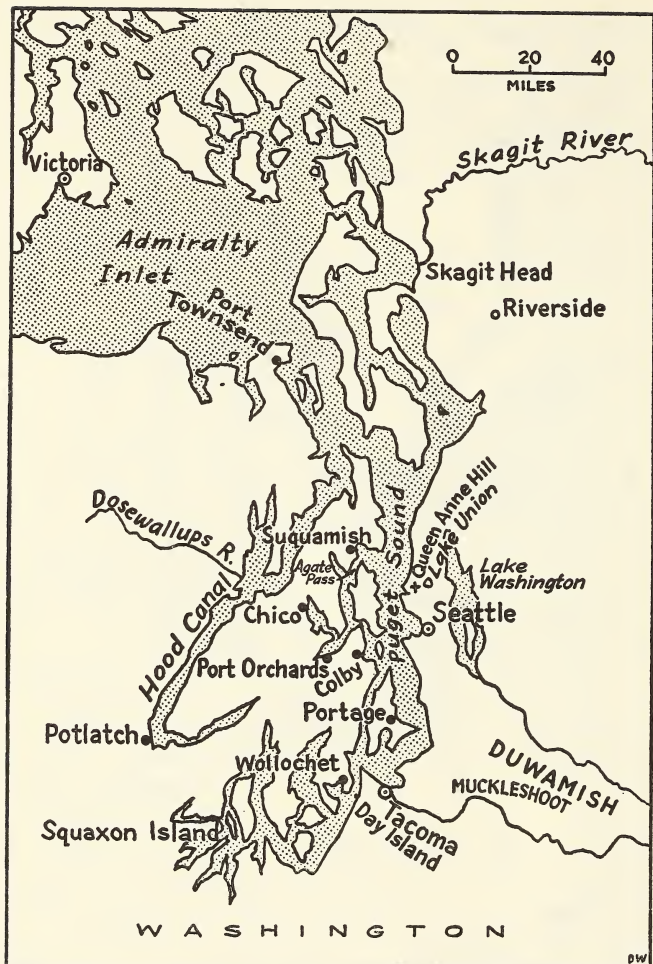
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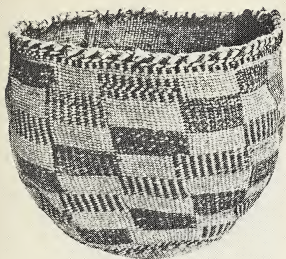
THE PACIFIC NORTHWEST



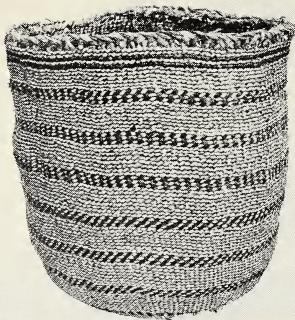
PUGET SOUND REGION (DETAIL)

## PLATES

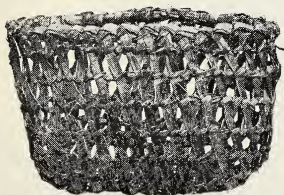




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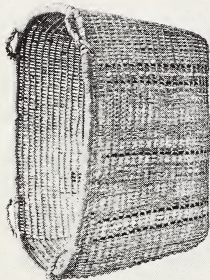


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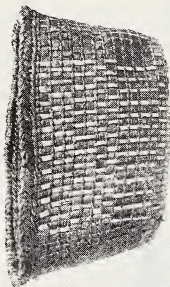


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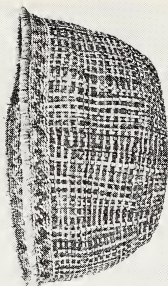




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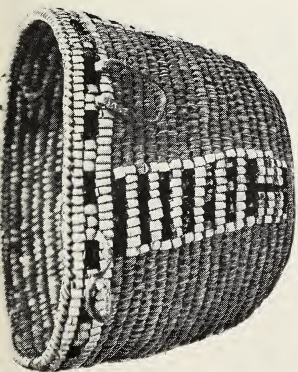


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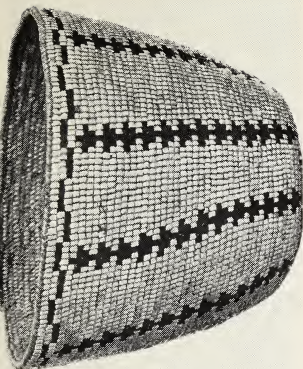


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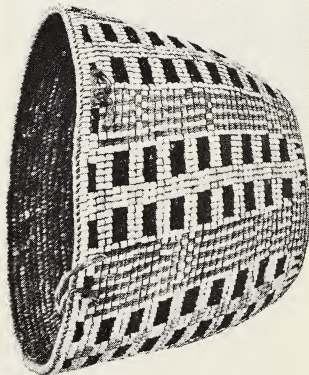




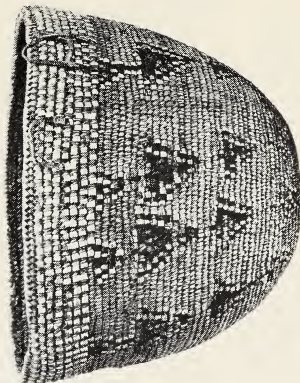
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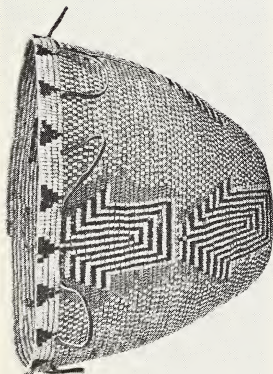
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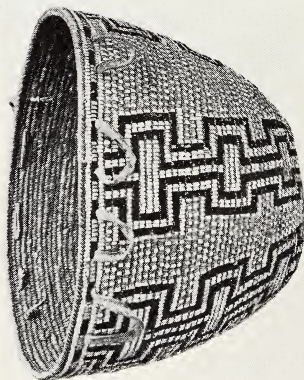
*c. 9/7067*



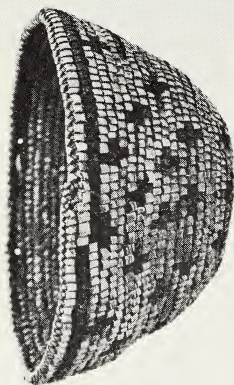
*d. 9/7083*



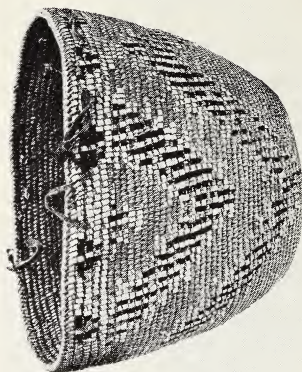
a. 9/7649



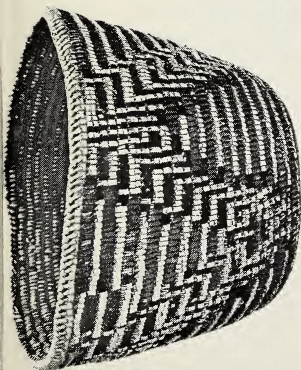
c. 5/7919



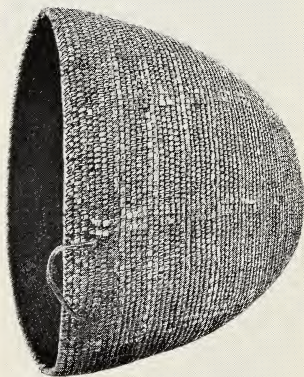
b. 9/7669



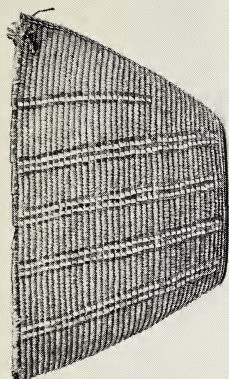
d. 9/7597



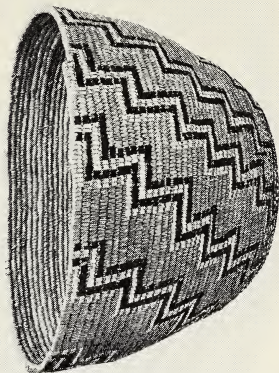
a. 9/7560



c. 9/7300



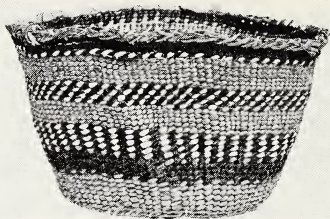
b. 11/3209



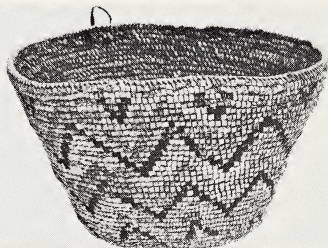
d. 9/7561

DESIGNS ON BASKETS.

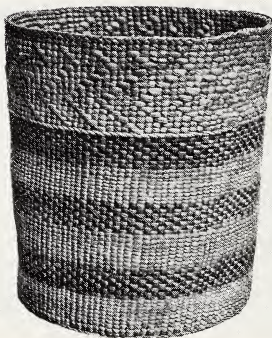




*a. 9/7522*

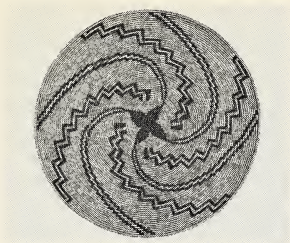


*b. 9/7554*



*c. 9/7623*

DESIGNS ON BASKETS.



*a.* 24/7734

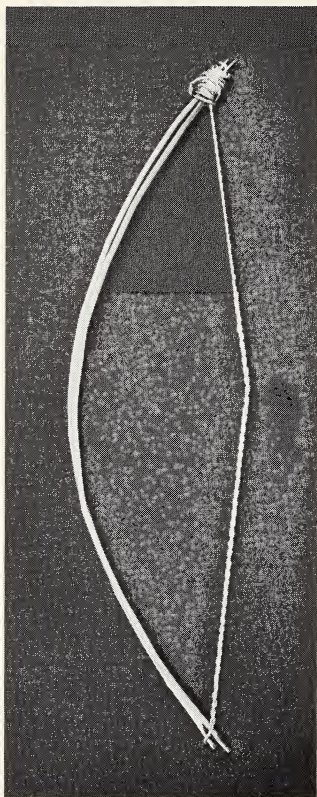


*b.* 11/6657



*c.* 5/7878

DESIGNS ON BASKETS.

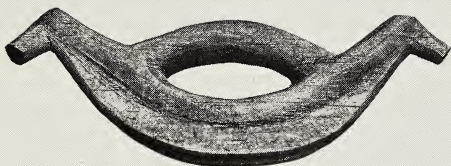


9/7543

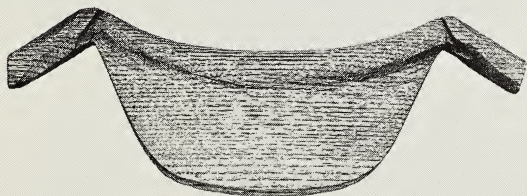
WOODEN MATTING NEEDLE.



9/8543



9/7073



9/7097

WOODEN MAT CREASERS.

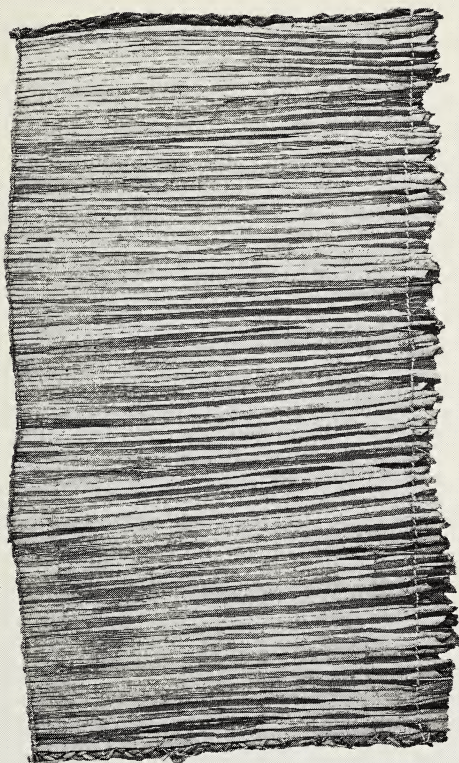




9/7671

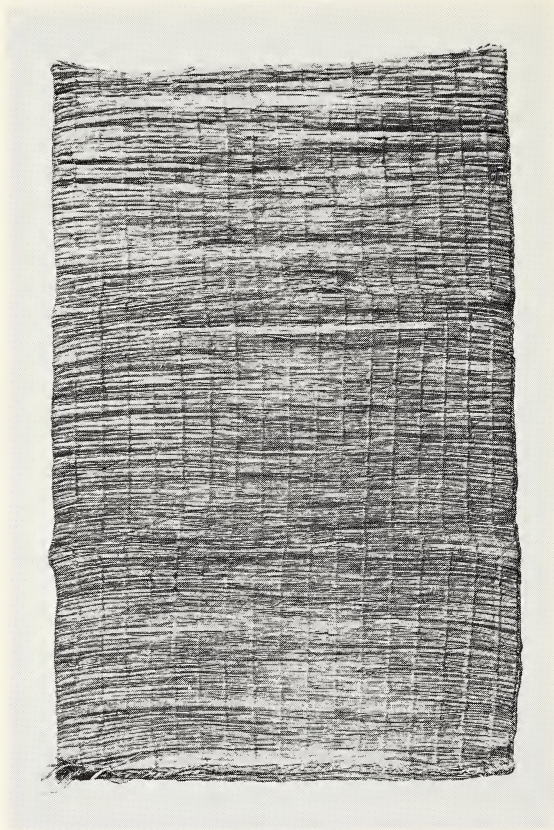
COIL OF WARP STRING.





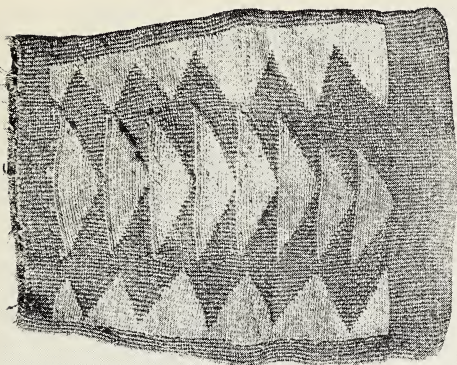
9/7662

ORDINARY HOUSE MAT.



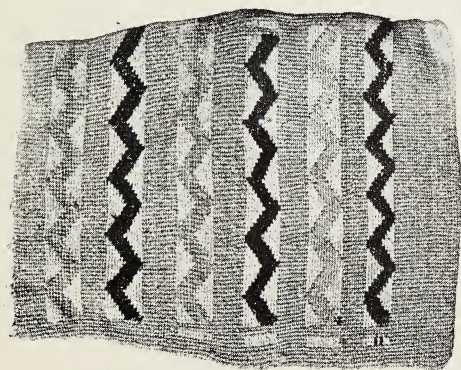
9/7095

SLEEPING MAT.



"Back"

9/7667



"Front"

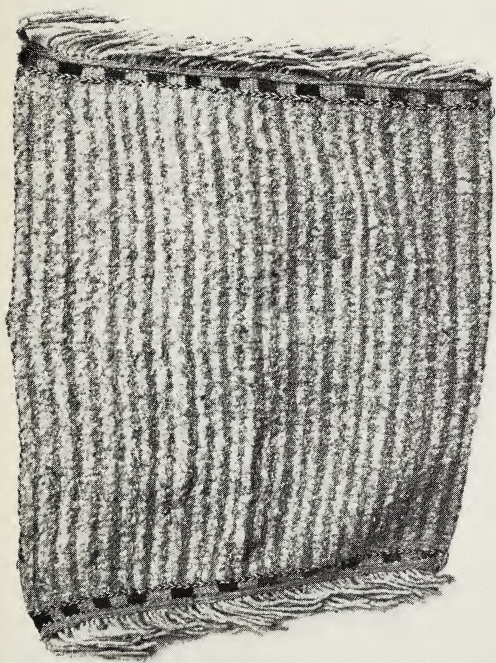
WOVEN CONTAINER, (BOTH SIDES).





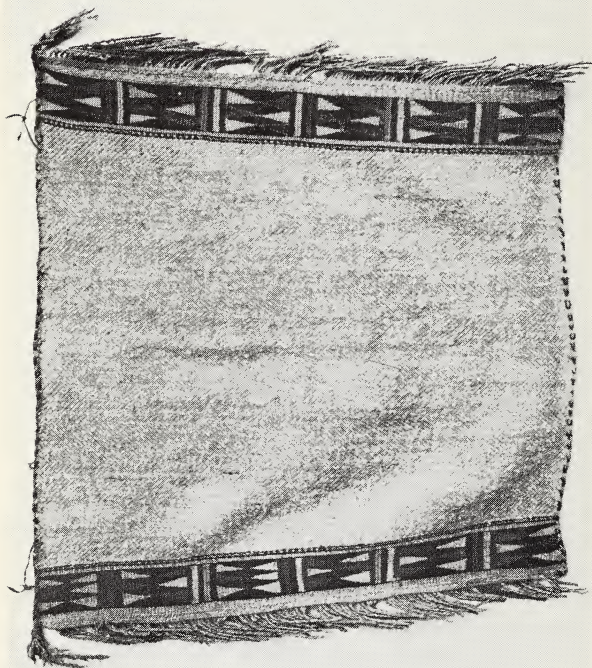
CLALLAM WOMEN WEAVING A BLANKET, PAINTING BY PAUL KANE, (1847).

Courtesy of Royal Ontario Museum.



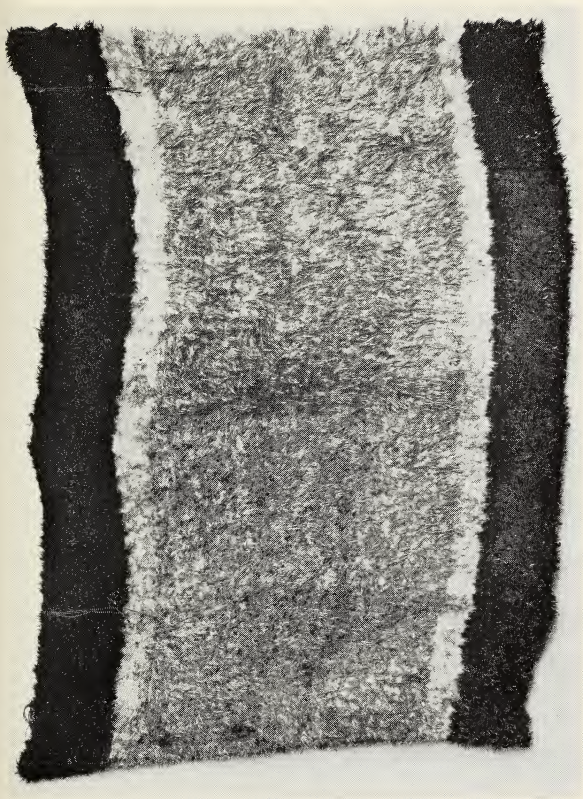
CAPE WOVEN OF DOG HAIR.

Courtesy of U.S. National Museum, No. 1894.



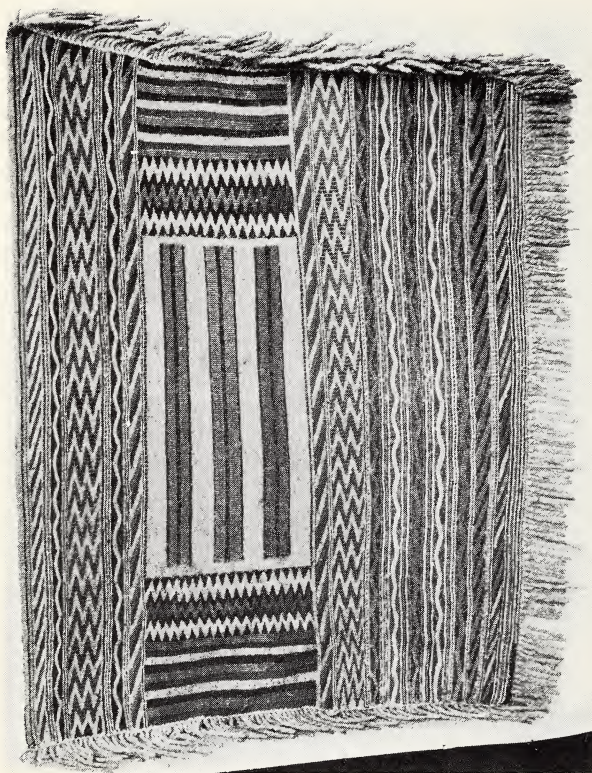
CAPE WOVEN OF DOG AND GOAT WOOL.  
Courtesy of U.S. National Museum, No. 221,408.





CAPE WOVEN OF DOG AND MOUNTAIN GOAT HAIR.

Courtesy of U.S. National Museum, No. 2119.



SALISH WOVEN FEATHER CAPE.

Courtesy of U.S. National Museum, No. 2124.





EIDER DOWN CAPE.

Courtesy of U.S. National Museum, No. 1894A.



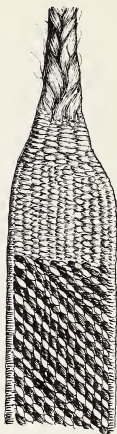
9/7094A



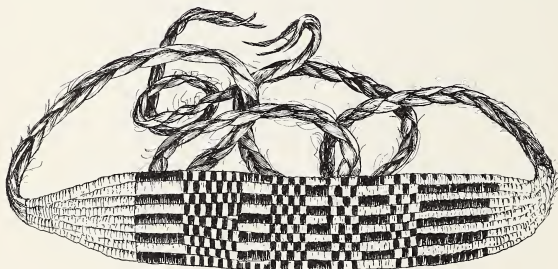
9/7094B



5/9525



5/9527

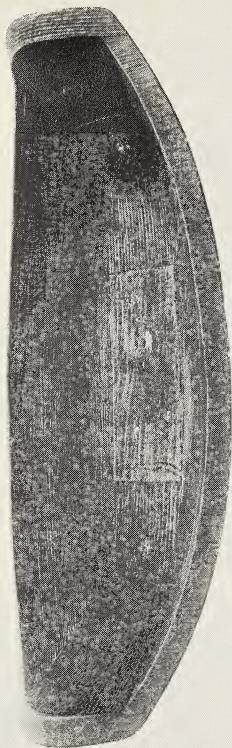


9/7562

PACK STRAPS, OR "TUMPLINES."

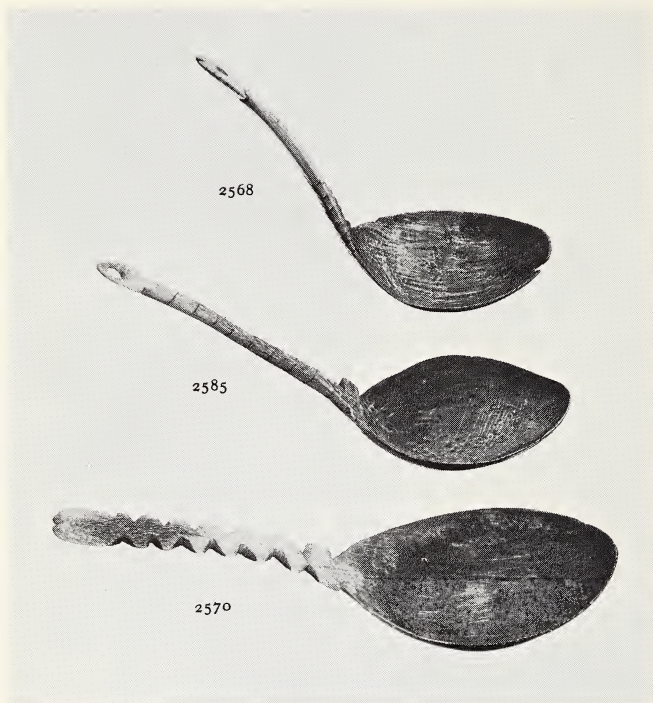


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6/9670

DISHES CARVED OF ALDER WOOD.



CARVED HORN SPOONS FROM CALIFORNIA.





9/7352

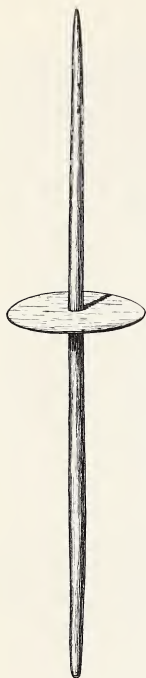


9/7304



9/7301

PUGET SOUND SPOONS.



a. Spindle. 9/7544.



b. Cedar meat skewer. 10/200.



c. Split fish holder. 9/8540.

WOODEN IMPLEMENTS.



9/8608.

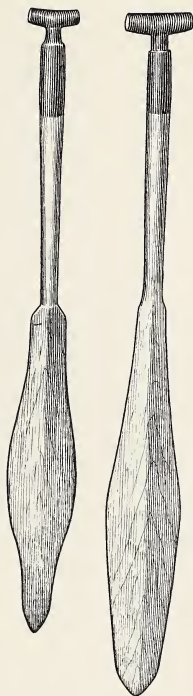
WOODEN CRADLE BOARD.



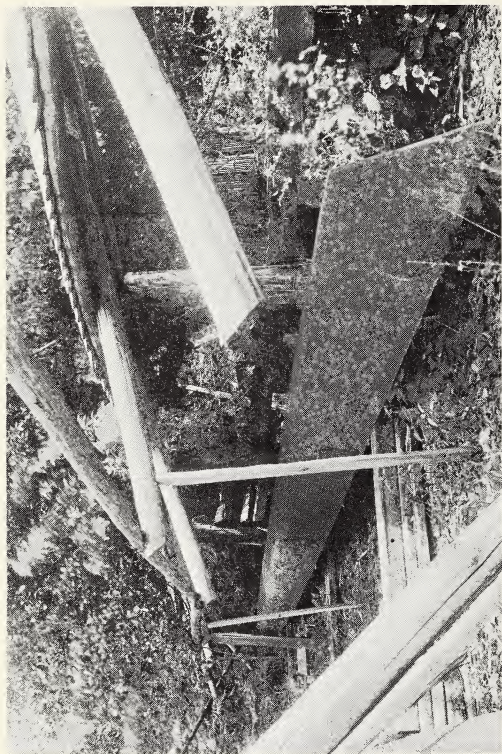


SKULL DEFORMATION.

Courtesy of U.S. National Museum, No. 4549.

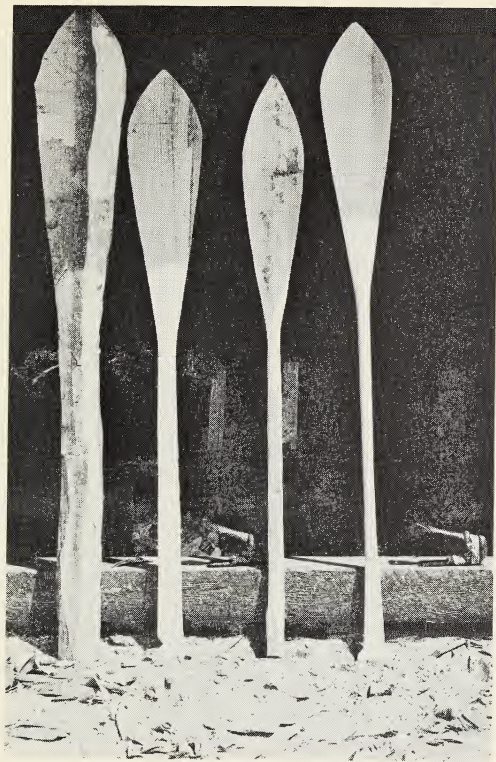


CANOE PADDLES.



INVERTED HULL OF A RACING CANOE, DESIGNED BY JACK ADAMS, SUQUAMISH.

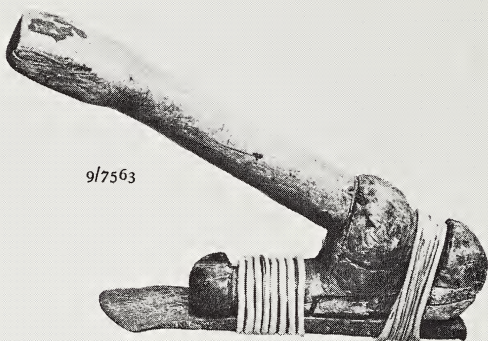
Photo by Douglas Leechman.



PADDLES IN PROCESS OF MANUFACTURE, BY JACK ADAMS.

Photo by Douglas Leechman.

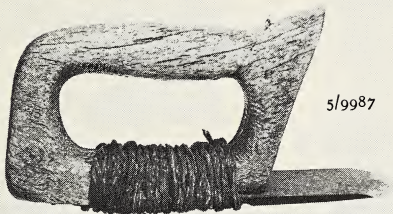




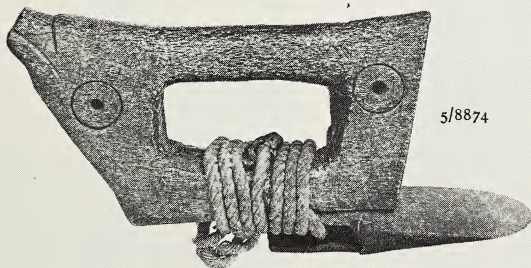
WOODEN-HANDLED ADZES, WITH STEEL BLADES.



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5/9987



5/8874

BONE HANDLED ADZES WITH STEEL BLADES.





10/4945



10/4946

STONE MAULS.



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a. DIGGING STICK WITH ELKHORN CROSS PIECE.



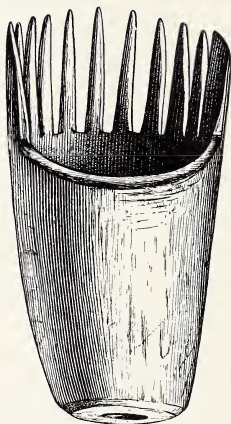
2/5921

b. WOODEN BOW.



9/7295

*a.* CEDAR WOOD BERRY PICKER.



9/7672

*b.* BLUEBERRY PICKER.

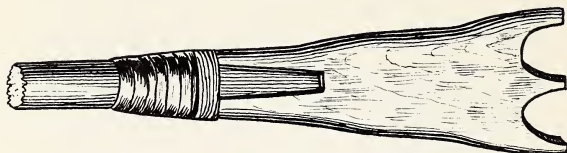


9/7104



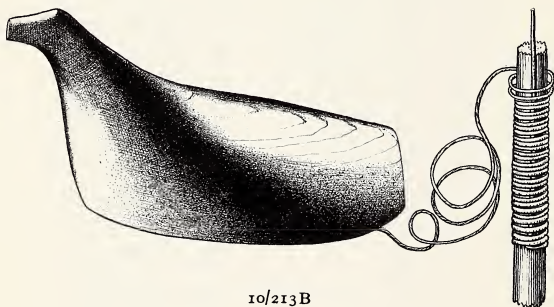
10/213

FISHING SPEARS.



10/213 A

FISHING SPEAR BUTT.



10/213 B

FISHING FLOAT.



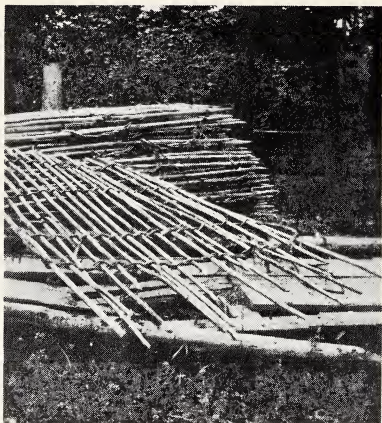
10/201B



10/201A

HERRING RAKES.





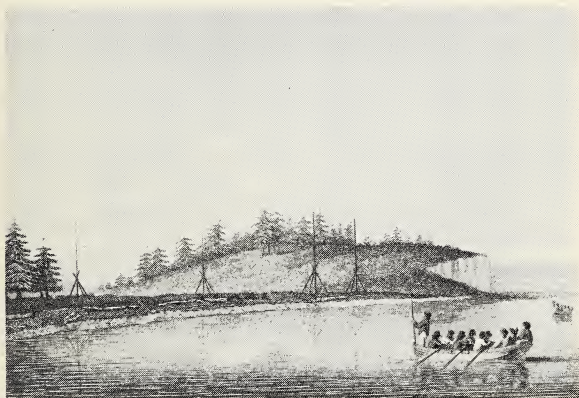
FISH STRAINER.



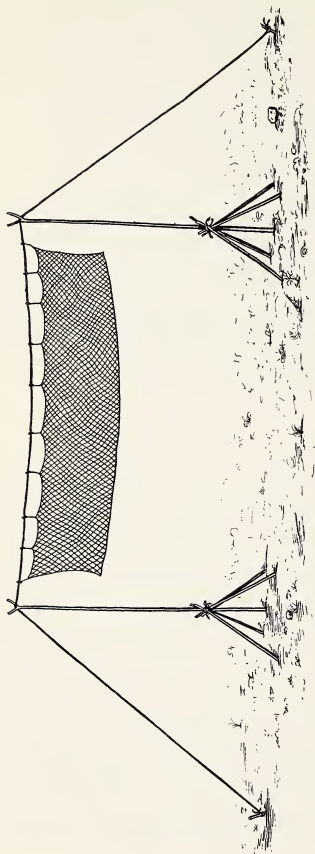
BIG JOHN WITH DIP NET.



a. "MOUNT RAINIER FROM THE SOUTH PART OF ADMIRALTY ISLAND."



b. "FOUR REMARKABLE, SUPPORTED POLES, IN PORT TOWNSHEND."



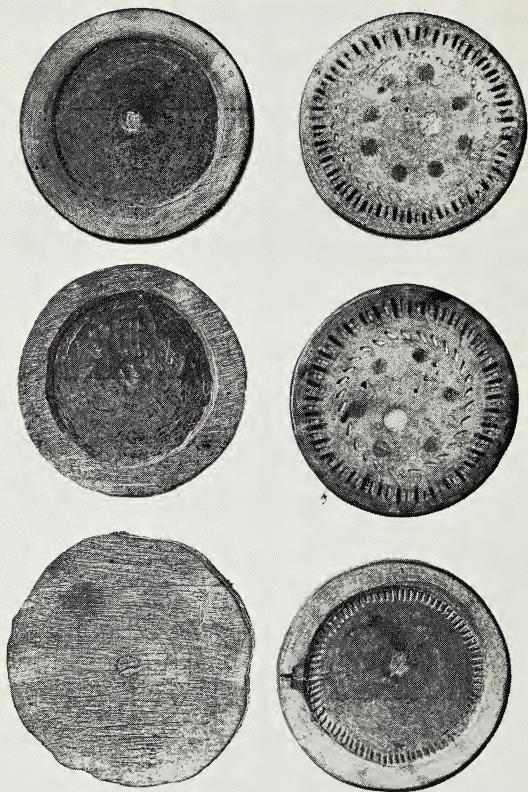
PUGET SOUND DUCK SNARE.



9/854r.

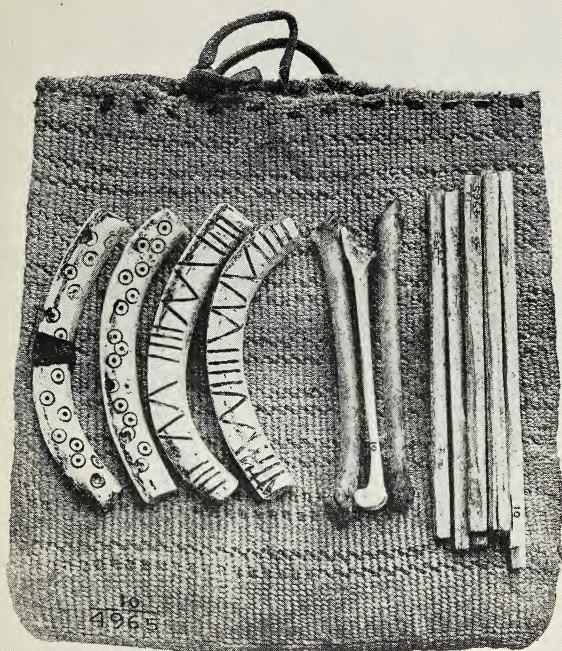
SET OF FOUR GAMBLING BONES.





9/7358.

WOODEN GAMBLING DISCS.

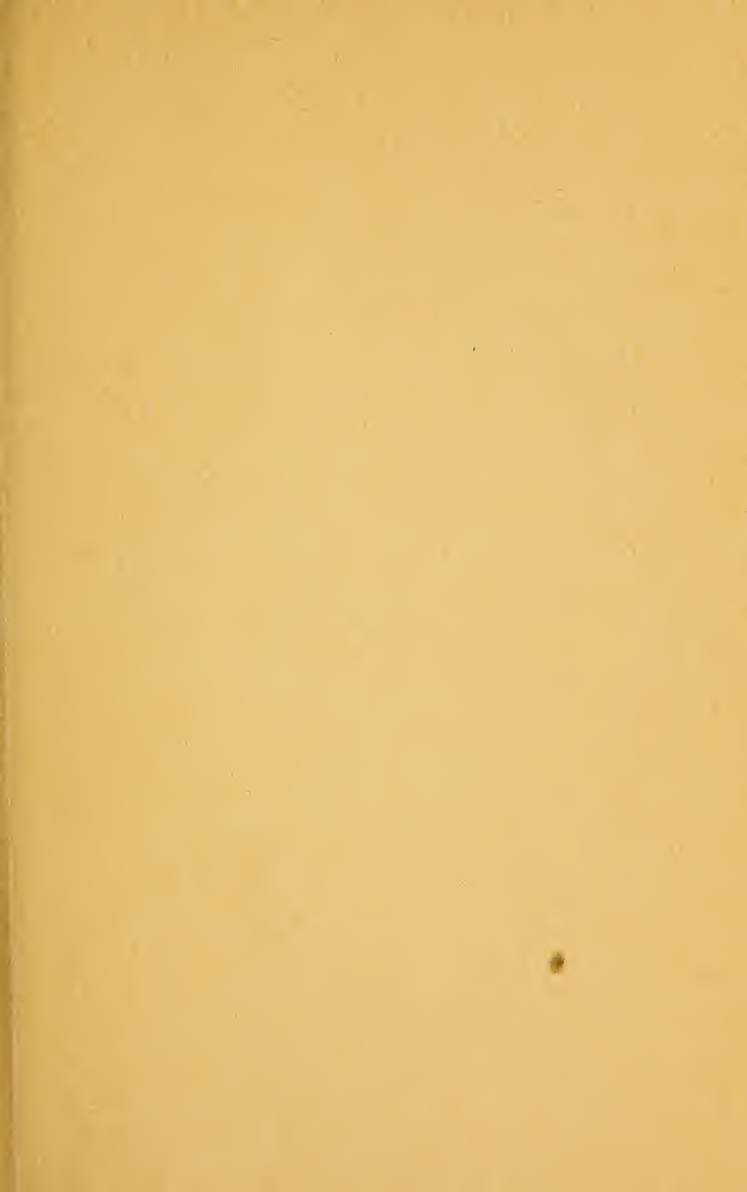


10/4965

WOMEN'S GAMBLING GAME.







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